An Address
ON
APPENDICITIS.

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GENTLEMEN,—It has been my intention in preparing this paper merely to review some of those important points relating to the cause, course, and diagnosis of appendicitis, and more especially to its treatment, about which great differences of opinion still exist in the profession, and to make my own slight contribution towards the acquirement of a fulness and certainty of knowledge which will permit us at some future day to lay down certain broad general propositions accepted and endorsed by both surgeons and physicians.

As regard etiology, we may first consider (*a*) the predisposing causes. The explanation of the great frequency with which the appendix becomes the seat of inflammatory and destructive lesions as compared with the other portions of the digestive tract is undoubtedly to be found in its anatomical relations. There can be no question that those structures which remain to us as functionless vestiges of parts once useful are possessed of low vitality and but feeble resistant powers. In addition, its dependent position, its communication by an orifice, often more or less narrowed, with that portion of the intestine in which inspissation of intestinal contents first occurs, while at the same time it is removed from the direct fæcal current, all appear to be conditions so markedly predisposing to inflammatory attacks that we need look no further for a sufficient explanation of the extraordinary frequency of appendix trouble. We may next consider (*b*) exciting causes. Putting aside the comparatively rare cases in which tuberculous or other general disease localises itself in the appendix, we have two chief classes of exciting agencies, clinical differentiation of which is to be earnestly aimed at: the mechanical, and the bacterial or infective. The latter comes into play usually, perhaps almost constantly, as a sequel of the former, which may, I believe, exert its action alone from first to last in many cases. The following anatomical points must be remembered. The appendix is commonly found curved upon itself because its mesentery, derived from the inferior layer of the mesentery of the ileum, is too short for it. Along the free concave border of the mesentery runs a single vessel, a branch of the ileo-colic, and from this branch the appendix as a rule derives almost its entire blood supply. Another peritoneal fold runs from that part of the ileum most remote from its mesenteric attachment and is united with the mesentery of the appendix. It carries no bloodvessels. It is the remains of the true mesentery of the appendix. (Treves.) It is interesting to note the fact that in the different types of cæcum found in our species those which involve a disproportionate growth of the cæcum show that it derives its peritoneal covering partly at the expense of the mesentery of the appendix, which becomes more and more scanty and more vertical in direction the larger the relative size of the cæcum. We here have the factors which enter into the production of a large number of cases of appendicitis. Distension of the ileum with gas or of the caput coli with gas or fæcal matter will cause dragging on one or the other of these folds, already too scanty, increase the torsion of the appendix, interfere with the blood-supply through its single vessel, and according to the degree of torsion produce congestion and tumefaction, catarrhal inflammation, ulceration or gangrene, with the clinical symptoms that belong to each. The importance of the matter will be apparent if we remember that it has been asserted that all cases of appendicitis are infectious in their nature, and that from this assumption has followed the corollary that all cases should be operated on, as one attack means almost certainly another at some future time. It seems probable, though hardly yet proven, that the bacterial cause of appendicitis is as a rule the bacterium coli commune. It is almost invariably to be found in the intestinal tract, and seems in the presence of sound mucous membrane to have little or no power for evil. But it is equally well demonstrated that if the epithelium is once destroyed it has both pathological and pyogenic properties. (*c*) A third class of causes which may be regarded as both predisposing and exciting must be made to include fæcal concretions and foreign bodies. The latter, once thought to be the chief factors in producing the disease, are now known to be of great rarity, occuring in only about 4 per cent. of operative cases.[1] Fæcal concretions are found in 15 to 20 per cent. of such cases, and there is evidence to show that they may occasionally by their presence give rise to the lesion of the mucous coat which precedes infective processes, but they are so often absent in cases of all grades of severity and so often present at necropsies on persons who have died from other diseases that they should not be considered of primary importance.

How are we to recognise clinically the cases in which the mechanical element alone is the factor and the circulatory disturbance stops short of the production of necrotic lesions of epithelium, mucous membrane, or appendix wall? If the views advanced as to etiology are sound, not only do such cases occur but they probably outnumber the more serious forms of the disease, frequent as are the latter. Statistics support this view, as there is good reason to believe that from 60 to 80 per cent. of cases of appendicitis recover without operation, and in the majority of these cases an infectious element must almost certainly be absent. Nor do the facts bear out the assertion so often made recently that such recoveries are merely apparent or temporary. If we review the early symptoms of a typical case of so-called mild or catarrhal appendicitis and assign each to its anatomical or pathological cause it is discouraging to find that thus far we have at this stage practically no means of distinguishing the cases which are going to stop short of grave organic lesion from those which, unless cut short by surgery, are predestined to almost certain fatality. Let us suppose that we have a case in which constipation (which has been obviously or unsuspectedly present in 90 per cent. of my cases) or diarrhœa, or at least some digestive derangement, has caused intestinal distension with fæcal matter, or with gas, or irregular and excessive peristalsis in the ileo-cæcal region. The meso-appendix is dragged upon, the torsion of the appendix increased, and the return of blood interfered with; the arterial supply, more difficult to disturb than the venous current, is but little affected. If we could see such an appendix we would undoubtedly find swelling and congestion, hypersecretion, and nerve irritation. It seems to me theoretically unreasonable to suppose that in every such case there is necrosis even of epithelium or infection even of low grade. The usual symptoms of such a case as we are considering, with their explanation, are: Pain, at first general and diffused over the abdomen, because the superior mesenteric plexus of the sympathetic, which supplies the appendix, also largely supplies the intestines, and because irritative nerve pain is apt to be referred to the peripheral extremities of nerves; next, and within a very short time, it is felt in the umbilical region, because as such pain increases in intensity it is often referred to the nearest nerve centre, and the great sympathetic ganglia of the abdomen are situated in that region. After a few hours there is tenderness on pressure in the right iliac fossa. It is a localised tenderness in all the varieties of appendicitis, because, while the appendix itself is movable, it always arises from the same part of the cæcum, and the mobility of the latter is much more restricted. The point of pain on pressure known as McBurney's point indicates, therefore, with moderate accuracy the base, not the tip, of the appendix, and is rarely absent even in gangrenous cases, because that portion of the appendix is usually the last to be affected by interference with the blood-supply. Vomiting commonly follows, has little relation to gastric conditions, and is ordinarily reflex and due to reversed peristalsis as the ejecta show a degree of digestive change corresponding to the time which has elapsed since the last meal. Moderate fever (99·5° to 101° F.) and slightly increased pulse-rate (90 to 110) are usually present, and are doubtless due to the absorption of intestinal products. There is slight rigidity of the right rectus muscle, and later of the other abdominal muscles over the right iliac fossa, often, but perhaps not necessarily, due to peritonitis, and in any event arising from

[1] Matterstock, Fowler.

the fact that those muscles receive their nerve-supply from the seven lower intercostals, while the superior mesenteric plexus gets its contribution from the spinal system through the splanchnics derived from the same seven intercostals.

This group of symptoms includes all that are of any value in this type of appendix trouble. It has been asserted (Rushmore, Osler, and others) that to speak of the first day that the patient complains of pain as the first day of the disease is fallacious, and it is said that what we recognise in appendicitis is peritonitis, which has been preceded by ulceration of the mucous membrane and a perforation of the appendix itself. Now, if this were demonstrably true it would, I think, oblige us to accept the rule laid down by some surgeons that the diagnosis of appendicitis brings with it the obligation to operate. But it is demonstrably untrue. Not only does not every case with the above symptoms have precedent ulceration, but there have now been enough early operations and removals of appendices at this stage to enable us to say positively that, apart from the conditions already described—swelling, congestion and associated vascular changes, and nerve irritation—there are often no grave lesions of either the mucosa, the parietes of the appendix, or of its peritoneal covering. While the explanation already given of the etiology and symptoms in these cases shows (1) that they may depend upon mechanical causes and are not necessarily infective, and (2) that there is no phenomenon associated with them which of itself indicates either a solution of continuity of the mucosa, infection of the appendix wall, or peritonitis, unfortunately it must also be said that there is none which excludes the graver conditions. Colicky pain, localised tenderness, slight abdominal rigidity, vomiting, and moderate fever may be the only symptoms of a case which is going on to a rapid termination by gangrene, perforation, and septic peritonitis. It must therefore be decided whether, taking a large number of such cases, medical treatment or operation offers the best chance for recovery. At present the facts seem to be as follows. Perhaps 80 per cent. of cases of this type recover under medical treatment. Of the remaining 20 per cent. at least one half can be saved by operation during the condition of localised abscess which would form in probably that proportion of cases. Of the remaining ten, in which no protective adhesions would form, a certain indeterminate proportion would recover after operation done before septic peritonitis and intestinal paresis had occurred. This would leave a death rate of, say, from 5 to 8 per cent. If, on the other hand, every case were operated on as soon as seen, would this death-rate be increased or diminished? The operation, however skilfully conducted, means of necessity a certain amount of traumatism to the peritoneum, and an equivalent diminution of its local resistant power. Most surgeons of experience will agree with Treves, who in his recent admirable Lettsomian Lectures says: "There is no doubt that the nervous disturbance which attends any abdominal operation leads to some degree of intestinal paralysis. This paralysis, attended as it is by vaso-motor changes in the bowel wall, is favourable to the absorption of septic matters from the intestine." It should also be remembered that Terillon has shown that the effect of irritation of the parietal peritoneum, which is chiefly disturbed in ordinary exploratory operations, is comparatively feeble, while it is violent and intense when that covering the intestines is involved. (Treves.) Therefore, while both my experience and my observation lead me to believe that in good hands these very early operations will have an extremely low mortality, perhaps lower than that of the disease treated medically, I do not believe that it will be "practically *nil*."

As to the diagnosis of the class of cases we have just been considering, it is to be made chiefly from stercoral typhlitis, a condition which has been so overshadowed during the advance of our knowledge in regard to appendix disease that we are in danger of acting as if it were non-existent. It has many features in common with appendicitis, and it is quite possible, as has been asserted, that to some degree this is present in most cases of stercoral typhlitis; but the independent existence of the latter condition has been shown unquestionably, both at necropsies and at operations where severe forms of typhlitis and perityphlitis have been found, to be dependent on stercoral ulcers of the cæcum, the appendices being normal. The relation of the mild attacks of appendicitis to digestive derangement has been quite unmistakable in my experience, and it is not very uncommon to find in relapsing appendicitis that one particular article of food is the especial exciting cause of an attack. Now, if in so many cases fæcal distension of the cæcum is the starting point of appendicitis, it is reasonable to believe that in some of them the trouble does not pass beyond the cæcum, and it is important to recognise these cases because the prognosis is so much more favourable and operative measures need not, as a rule, be thought of. They have occurred with me chiefly at the times of life when appendicitis is less common, and more especially in children. They can be recognised with certainty only by the initial presence of a doughy, sausage-shaped tumour in the cæcal region, associated with the usual symptoms of appendicitis in a modified form. The localised tenderness is not so great, the fever is very moderate, vomiting is rarely a prominent symptom, and constipation is almost invariable, though occasionally a spurious diarrhœa may make its appearance. The discovery of a tumour in the very beginning of an attack of apparent appendicitis of obviously mild type would, I think, justify the diagnosis of stercoral typhlitis; but I know no other way in which the diagnosis can be made, and in the absence of that symptom it would be safer to consider doubtful conditions as almost certainly indicating appendicitis.

CASE 1.—A little girl had an attack of vomiting followed by umbilical pain and almost immediately by right iliac tenderness. When first I saw her, about eight hours after the beginning of the illness, a distinct mass could be felt in the cæcal region; tenderness at the edge of the right rectus in the omphalo-spinous line was marked; she lay on her back, with the knees drawn up. Her temperature was 101° F. and her pulse 110. Her mother stated positively that the bowels had acted regularly and that she had never known her to be constipated. Salines which had already been given were continued. Hot fomentations were applied to the abdomen. The diet was reduced to teaspoonful doses of peptonised milk at hourly intervals. At the end of twenty-four hours there was a little aggravation of all the symptoms; at the end of forty-eight hours there was slight tympany; at the end of sixty hours, when we were considering the advisability of operation, there was an enormous stool, followed by two others in rapid succession and by a complete disappearance of all the symptoms.

It will be convenient now to consider the non-operative treatment of these mild "catarrhal" cases before passing to those of the next grade. Ordinary clinical experience with other forms of enteritis demonstrates the value of absolute rest in bed and on the back. The frequent inability of the stomach to retain food, the certain inability of a portion of the intestinal tract to take care of the residue even if it reaches that point, and the absolute need for the avoidance of all sources of local irritation point clearly to a diet reduced to the lowest possible terms. The use of heat, drawing the blood to the superficial veins of the abdomen, of cold, by means of ice kept on long enough to bring about local anæmia extending to the parietal peritoneum or deeper, and the actual abstraction of blood by leeches seem to have about equal claims to employment. Personally I prefer either the heat or the blood-letting. I strongly object to blisters, iodine, and ointments as rendering the skin unsuitable for a satisfactory operation later if one be required. The question about which there is the widest apparent divergence of opinion concerns the respective merits of the use of salines and the use of opium. My present opinions, which have not been reached without some thought and much hesitation, but which seem to me more and more satisfactory as my experience widens, are based on the following considerations. I have never happened to see one of these extremely mild cases, in which there was diarrhœa, or one in which the bowels were moved easily by enemata or aperients, run into the graver type of case. Every surgeon who has had any abdominal work knows how essential it is to have the intestinal tract thoroughly evacuated before operation. It is in this way and by the prompt administration of salines according to Tait's plan on the first appearance of symptoms of "pseudo-ileus" that general peritonitis is often avoided, not cured as is incorrectly stated. As any cause of appendicitis may become an operative case it is of the highest importance that in the early stages whatever remains of peristalsis should be encouraged and not destroyed by the use of opium. For these various reasons my rule in practice is in all ordinary mild cases to give salines until free purgation is assured, and then to continue the action more gently by the use of divided doses of calomel, which by its antiseptic properties has a distinct value, and through its effect on the portal circulation aids also in the depletion of the ileo-colic vein and its tributaries.

Spontaneous severe colicky pain, altogether distinct from pressure tenderness, is the only indication I recognise for the use of opium, and I give it then in minute doses combined with enough calomel to overcome its constipating tendency. I am at present satisfied that this treatment is practically sound, and I am certainly convinced that many patients to whom opium is given early and freely die partly because the imperative need for operation is thereby disguised and the favourable opportunity lost, and partly because that free evacuation of the bowels so necessary for success is interfered with. I may say here before leaving the subject of the medicinal treatment at this early stage that, in my judgment, not enough attention has been paid to what might be called the antiseptic treatment of appendicitis. It is reasonable to suppose on *a priori* grounds that in a disease the most serious varieties of which are produced by infection with micro-organisms whose habitat is the digestive tract intestinal antisepsis would be of distinct value. And furthermore I would say that in all forms of sepsis, present or threatened, there is good reason for believing that the systematic administration of soluble and powerful antiseptics is of far more importance than is commonly supposed. If the medicinal and dietetic treatment has been successful the symptoms gradually disappear, the local tenderness often being the last to go. Scrupulous continuance of rest, restricted diet, and mild laxatives should be continued for from one to two weeks. If the symptoms are worse instead of better at the end of forty-eight hours, or earlier than that if there is severe sharp pain, increased tenderness and rigidity of the abdomen, and beginning tympany, either local or general, I think there can be no doubt that surgical interference offers by far the best hope of recovery. In the majority of cases these phenomena then indicate a perforation of the appendix wall, possibly not macroscopic, but permitting the filtration through it of bacteria and their products. So far as diagnosis goes there is practically no condition for which such a case can be mistaken. It is of course not impossible for resolution to take place in these cases. Not every one of them goes on to gangrene in mass and to infection of the general cavity. Even if resolution does not occur a protective inflammation may wall off the appendix and does so in a large proportion of cases. But there is absolutely no way of recognising with any reasonable certainty which of these three events will follow: resolution and recovery; localised abscess, with from 90 to 95 per cent. of chances in the patient's favour; or general peritonitis, with almost sure death if it is once well established. If operation is done at this stage it is unusually easy. An incision two or three inches in length is better than a smaller one, and is most advantageously placed if it is oblique, with its centre a little outside of McBurney's point. There will usually be found a moderate excess of peritoneal fluid, clear or only slightly turbid, a circumscribed peritonitis, weak adhesions between the cæcum and the parietal peritoneum and adjacent intestines, and a tense, swollen appendix. It can be removed most safely by making a circular incision through its peritoneal coat three-quarters of an inch from the base, reflecting it like a cuff, ligating the mucous coat with a circular ligature, touching its surface with a drop or two of pure carbolic acid, replacing the peritoneal coat, and stitching with a Lembert suture. When the peritoneum has become thickened and brittle almost equally good results can be obtained, and more expeditiously, by throwing a ligature around the whole appendix one quarter to half an inch from the cæcum, removing the organ and cauterising the stump with carbolic acid. As a rule the wound may be closed without drainage, and if closed properly the risk of ventral hernia is a very small one. The operation will certainly have a small mortality, but for reasons already given it will be a larger one than if it were a simple exploratory operation. While, however, I believe more patients would be saved by operation at this time than by any temporising measures, I may say that experience has taught me to await events with more equanimity: 1. If the bowels are loose. 2. If the pain is dull and throbbing (connective tissue pain, Bryant), and not sharp and lancinating (serous tissue pain); the former I refer to a tense appendix with infiltration of the wall, but without gross perforation or intense or widespread peritonitis. 3. If the spot of greatest tenderness on pressure by a finger-tip is not precisely at McBurney's point. This is an empirical rule, but I have noticed in a number of cases in which there was delay at this stage, and which finally did well without operation that the point of greatest tenderness so anxiously investigated at each visit was more or less remote from the usual region. 4. If vomiting is not marked. It is not usually a prominent symptom of this stage of appendicitis in cases which lead to recovery. It will almost always be found present in an inverse relation to the looseness of the bowels. Its absence is a very favourable circumstance, and always, and I believe justly, influences my prognosis. 5. And, finally, I am less anxious during this period of delay if, without marked change in the general condition, increased resistance, slight dulness, and the presence of a mass recognisable by palpation indicate that a localised abscess is forming, shut off by adhesions from the general peritoneal cavity.

CASE 2.—A young man had the usual symptoms of a moderate attack of appendicitis for three days. At the end of that time the conditions present were: rigidity of the abdominal muscles over the right iliac fossa; slight tympanitic distension of the same region; temperature 101·5° F. and pulse 110; marked tenderness at a point just above Poupart's ligament at the junction of the middle and inner thirds. He had been continuously on salines. His stomach was retentive, but there had been no bowel movement for two days. He was getting no food. I was strongly inclined to operate, but delay for twelve hours was decided upon, and at the end of that time there was such marked amelioration of all the symptoms that operation was not further considered.

We may pass in this condition of uncertainty into the period extending from the third to the fifth day with very little alteration of the symptoms, but usually during this time one of the three events already mentioned will occur. If the bowels continue to act spontaneously or with mild laxatives, if the tympany, which may be quite marked, begins to decrease, if the fever lessens, and especially if tenderness remains well localised and tends to subside, the prognosis is, on the whole, favourable, although the patient is unquestionably in grave danger during every minute of this time. If no amelioration of these symptoms occurs, although no new ones develop, the case at that period, from the third to the sixth day, becomes one of the most anxious and trying with which either physician or surgeon can be confronted. It is the time at which, as Richardson has tersely put it, we may feel that it is "too late for the early operation and too early for a safe late operation." It is probable that adhesions have formed, offering a certain degree of protection against general infection; but experience shows that in many cases they cannot be depended upon, and we may find at any visit that the tenderness and tympany have increased in intensity and become more widely diffused, that vomiting is more frequent and uncontrollable, that the fever has risen to 104° or 105° F., or, more ominous still, has disappeared leaving the temperature subnormal; in other words, that the general peritoneum has become involved. If, with the fear of this occurrence before us we proceed in such a case on the fourth or fifth day to removal of the appendix we do so with the knowledge that there is much risk of breaking up the recent and delicate adhesions which have thus far been the patient's safeguard, and we know that it is not always possible under these circumstances, however thorough and minute our precautions, to prevent a spread of the infection. With absolutely identical symptoms on which to base a prognosis at this stage, any two cases may go on, one to recovery, the other to death, and the same remark applies to the result of operation. On the whole, however, this very uncertainty tends to favour operation in spite of its undoubted dangers. We are now dealing with a case of circumscribed peritonitis threatening to become general. The infection which is giving rise to it is a progressive one. Ziegler and others have shown that the effect of injecting a culture of the colon bacillus into the peritoneum of animals varies, other things being equal, with the dose. In the mildest cases an illness, in which diarrhœa is a symptom, is followed by recovery. In another grade a localised purulent peritonitis is produced, running a slow course. If the dose is larger a fatal diffuse fibro-purulent peritonitis follows, and, if still larger, death may occur from acute sepsis before there has been time for any of the phenomena of peritonitis to develop. The peritoneum has thus undoubted ability to take care of certain quantities of bacterial poison, but succumbs to larger ones, and for this and other reasons it cannot be questioned that if the choice had to lie between infection during, and because of, an operation on the third or fourth or fifth day, and on the other hand an operation to which we are forced on account of spontaneous infection at some later period, the former course is by far to be preferred

What we need is information as to what symptoms indicate a persistent circumscription of the inflammatory action, whether it be suppurative or otherwise, and what symptoms point to an extension to the general peritoneum. Treves has shown that in the larger proportion of cases of fatal peritonitis the leading symptoms are those of poisoning and not of inflammation. Extension of the latter to the general peritoneum means that a large part of the enormous area of that membrane takes part in the absorption of the products of the bacterial infection. It should not be forgotten that the cases in which suppuration is most pronounced are among the most favourable examples of peritonitis, and that the most hopeless cases are often among those that show the least inflammatory changes. At present we have no safe rule to guide us as to the greater or lesser likelihood of generalisation in any particular case of appendicitis in the stage of circumscribed peritonitis. As we know clinically that localised varieties of peritonitis and circumscribed exudations are very rare in the area occupied by the small intestine, and as we know both clinically and experimentally that the peritonitis which involves its covering is of the most violent and intense variety, it might perhaps be safe to say that where the area of tenderness is small and distinctly confined to the cæcal and pericæcal area the prognosis is more favourable than when it extends beyond that region, and the latter occurrence might thus be regarded as pointing in the direction of generalisation, and therefore of operation; but I have no reliable observations to confirm this view, which may be unsound as a practical guide.

Of the phenomena which mark the actual onset of diffused peritonitis perhaps the gradual increase of tympany and tenderness and persistent vomiting is the most significant. If operation is done in a doubtful case at this time it will differ from the procedure already described in the necessity for thorough cleansing of the peritoneal cavity, if it is found to be infected, and in the employment of drainage. It differs also in the great care which must be taken, if a localised cavity containing purulent or sero-purulent fluid is found, to avoid making a communication with the general cavity of the abdomen. Large numbers of cases show now beyond all doubt that it is infinitely better to leave the appendix than to make a prolonged search for it or to employ much manipulation in freeing it from adhesions preparatory to removing it. The later the time of operation and the stronger and firmer the abscess wall, the safer the operative procedure becomes, but in every case and at every period if there is a circumscribed abscess it is poor surgery to insist upon finding and taking away the appendix in the face of obstacles. I have often removed the appendix when it was easily found, but I have oftener left it without more of a search for it than could be made in two or three minutes.

CASE 3.—A woman who was suffering with an attack of appendicitis of a chronic type had been ill for more than two weeks. There was a thick-walled tumour in the right iliac fossa. An incision through thickened and œdematous tissues gave vent to a large quantity of fetid pus. Digital exploration with the finger showed dense adhesions in every direction. No further search for the appendix was made. A drainage-tube and iodoform gauze were inserted, and the angles of the wound closed. Recovery was uninterrupted.

In a series of cases of perforative peritonitis reported by Kaiser, of six examples in which the exact point of perforation was never found five recovered. In seventeen cases in which Fowler did not remove the appendix and which recovered there was recurrence in only two within the next two years. The remainder had gone for variable periods three of them for between three and four years, without any symptoms. I have now had fifteen such cases myself, and in none of them have I heard of any subsequent trouble other than the occasional occurrence of a small fæcal fistula which sometimes relapsed once or twice but has thus far finally closed spontaneously and permanently in every instance.

CASE 4.—The patient was a woman fifty years of age. She was of low intelligence and no satisfactory history could be obtained. After admission to the hospital she complained bitterly of pain in the left iliac region and only later of pain and tenderness on the right side. Vaginal examination revealed a firm, resistant, tender mass on the left side and nothing abnormal on the right side. Her temperature was 101° to 103° F. and her pulse 110. There was dulness over the right flank. There was general tympany; some general tenderness was present, more marked, however, on the right side and at McBurney's point. Borborygmi could be heard by abdominal auscultation. The bowels acted freely under salines, after which there was a drop of two degrees in temperature and some improvement as to her feelings, but the local phenomena remained unchanged. An incision gave exit to perhaps twenty-four ounces of horribly fetid pus, which had been under great pressure. Inspection showed the distal extremity of the appendix projecting into the cavity from among a mass of intestinal coils covered with lymph and firmly matted together. No effort was made to remove it. The patient has done well.

The same reasons that forbid interference under these circumstances have prevented me from looking long or earnestly for other foci of suppuration. Sometimes they may easily be recognised and opened into the larger abscess cavity by the finger, but when this is not the case I think the patient's chances are better if the possibility of their presence is disregarded, as they are found in only a minority of cases, and they not infrequently open spontaneously into the original cavity. Irrigation, drying the cavity and dusting it with iodoform, the insertion of a large thick-walled rubber drainage-tube, and light packing with iodoform gauze complete the operation as I am in the habit of performing it. The prognosis during all this period is in direct relation to the localisation of the symptoms and of the absence of general sepsis. Accordingly a well-marked tumour, a moderate fever, a high tension pulse not of excessive frequency, a limitation of the tenderness to the right iliac region, even if there it be exquisite, and evidence of continued peristalsis, such as the recognition of borborygmi by abdominal auscultation, are all favourable. But at this or at any stage of the disease, from the earliest onset to the period of complete recovery, we may meet with quite a different set of symptoms. In the beginning the torsion of the appendix may be nearly or quite complete; or with moderate torsion there may be an exceptionally imperfect blood-supply; or in either case the bacteria present may be of especial virulence or in unusual quantity; or finally the resistant power of the individual may be markedly defective. According to the varying predominance of one or the other of these factors we meet clinically with types of cases directly comparable with those conditions produced in animals by experimental inoculation with the colon bacillus. Two of these we have now very imperfectly considered—the mild cases, in which the peritonitis is an inconsiderable element and which usually end in recovery, and the cases of distinct circumscribed peritonitis running a more chronic course and ending either in resolution or, if more severe, in localised suppuration. Either with or without these precedent stages we may have a general peritonitis. If this results from spread by continuity—the usual mode in which a localised peritonitis becomes general—or by infection through the lymphatics of the appendix and meso-appendix, or by a slow leakage of inflammatory products through the appendix wall, or by the migration of bacteria along the same channels, its approach may be slow; if it follows the rupture of an abscess it will be much more rapid.

CASE 5.—The patient had been apparently convalescing from an attack of appendicitis when, contrary to orders, he walked from one room to another. He was at once seized with a violent abdominal pain, which was immediately followed by distension, vomiting, and symptoms of shock. I operated a few hours later, irrigating and draining the peritoneal cavity, which contained a large quantity of pus, but he died the next day.

But in either event it is usually of the fibro purulent variety and is accompanied by much exudation. The patient soon presents the typical picture of diffused peritonitis—the incessant restlessness, the greatly distended abdomen tender everywhere to the lightest touch, dorsal decubitus, constant vomiting of small mouthfuls without much effort, thoracic respiration, obstinate constipation, absence of intestinal sounds, and high fever, followed towards the end by subnormal temperature, cold sweats, and collapse. It is of great interest, however, to note that even the cases which tend to run this course will occasionally recover when seen and operated on at the very onset of the generalised symptoms. In fact, if operation precedes the development of septic paralysis of the intestines a very fair percentage of such cases will recover. But after the latter phenomenon has appeared I regard the case as absolutely hopeless. If it is unmistakably present it is, I think, best to decline to operate. But if there is any doubt about it it is well to open, irrigate, and drain the abdomen. The suppurative cases are among the most favourable examples of peritonitis, whether general or localised. When localised they are very

favourable, and even in these general septic cases the more the suppurative process overshadows the toxæmia the better are the patient's chances. It may be well to note a possible explanation of this fact. Reichel some years ago determined that by gradually administering increasing doses of pure cultures of pyogenic micrococci to the peritoneum of an animal an immunity against an extremely large dose of this poison could be produced. The same immunity was acquired in the same way against the introduction of a sterile filtrate from the cultures and against the metabolic products of the staphylococci. Control experiments were uniformly fatal in animals not previously prepared. Attention has been called by Binnie to the clinical differences between the rupture of a chronic pyo-salpinx, even if of enormous size, and a case of very acute or so-called fulminating appendicitis with gangrene of even a small portion and escape of its contents.

CASE 6.—I saw some time ago a child in whom within a very few hours of the onset of the symptoms there was gangrene not only of the appendix itself, but also, and apparently as a result of an overwhelming bacterial infection, of an adjacent portion of the ileum. Distension was enormous. An enterostomy was done with a little temporary relief, but the child died soon afterwards. The chances of the patient, if operated on in a reasonable time, are far better in the former than in the latter case. Operation within three hours of the very first symptoms of such an event has failed to save the patient. He dies, as Treves has emphasised, not from the inflammation, or still less on account of any suppurative process, but from a profound toxæmia. In the pyo-salpinx there has been an opportunity for slow auto-inoculation. In the rapid gangrene of appendicitis there has been no time for this process. It is in such cases that we find the flat, silent abdomen indicative of absolute paralysis of the whole intestinal tract, and we have all the symptoms of shock and collapse. Here operation also is useless and to be avoided. But in the suppurative cases, for both the practical and theoretical reasons above given, if any sign of peristalsis remains—and this is the very best indication I know of as to interference or non-interference in these excessively grave cases—it is better to open and irrigate even if the patient is liable to die on the table. Occasionally a desperate and apparently hopeless case will be saved. The best immediate indication of gross perforation of the appendix with escape of its contents into the general cavity is sudden, violent, excessively acute pain, followed by rapid change of temperature, either rise or fall, and marked increase of the pulse-rate with diminution of volume and force. If the sepsis is profound the abdomen may be flat. If a little less in degree it may be barrel-shaped. Vomiting is usually a conspicuous symptom of this as it is of other forms of perforative peritonitis except that resulting from perforation of the stomach. It often shows its usual inverse relation to normal peristalsis. Of course in these cases operation must be immediate, and even then the mortality has been, and doubtless will be, for many years enormous. There remains to consider briefly the subject of recurrent and of chronic relapsing appendicitis. If, as I believe, various mechanical factors enter into the production of acute attacks, and if quite commonly those factors are brought into play by digestive derangement, and if an acute attack does not of necessity leave a permanent lesion of an infective type it is obvious that a patient may have two or even more mild attacks and safely decline operation. If, however, after any and every inflammation of the appendix the patient is left, as has been asserted, with what is practically a charge of dynamite in the abdomen, operation should be much more frequent than it has yet become. We shall do well both in discussion and in practice to separate the recurrent from the chronic relapsing cases. The former are well illustrated by the following case.

CASE 7.—In December, 1889, a man aged thirty-eight years had a mild attack of catarrhal appendicitis. He was ill for two or three days. He was treated by rest, starvation, salines, and calomel. His attack followed immediately upon a too hearty meal of broiled lobster after a day's shooting. In 1890 he was in New York on a visit and had another attack. I went to see him, meeting in consultation a well-known surgeon who had been called in at once. We agreed as to the undesirability of an operation at that time, but later disagreed, the New York surgeon advising removal of the appendix as soon as convalescence was once established, and I dissenting. I based my advice on the fact that the second attack, like the first, was clearly due to over-eating when tired, and especially on the circumstance that it again followed a meal of broiled lobster. Moreover, neither attack had been of a dangerous type. The opposing views were submitted by the patient at my suggestion to Dr. Agnew, who decided in favour of delay, and subsequently to Mr. Treves in London, who coincided in that opinion. The patient has never had another attack. I have seen many such cases and at present I feel quite clear that the outcry for operation after one or two such attacks is based on conceptions of the etiology and pathology of the disease which are so incorrect that they entirely vitiate the arguments founded upon them. In chronic relapsing appendicitis the case is somewhat different. The interval then is not one of entire health; there are digestive disorders, flatulence, constipation or diarrhœa, and pain in the right iliac fossa aggravated by motion or exercise or fatigue. The attacks themselves are of a higher grade of severity, are accompanied by the appearance of a tumour, which often never entirely disappears, and by distinct evidence of localised peritonitis. The general health suffers severely and the patient is apt to be anæmic and emaciated.

CASE 8.—A girl aged ten years was reduced to a condition of such chronic invalidism and exhaustion that even during an interval it was a question whether she could survive the journey to Philadelphia; and yet the operation was of the easiest type, completed in ten minutes without trouble. The appendix was thickened and twisted and diseased, but had no important adhesions. The improvement in health was immediate and has been continuous.

In the majority of cases which finally require operation, especially in those in which the persistence of the local symptoms during the interval is marked, pus is present in small quantity and surrounded by thick firm adhesions. Even these cases of chronic relapsing appendicitis do not invariably require operation. In some instances I have suggested it and then have acquiesced in the patient's request for a period of delay, which has now in several cases extended over some years and seems likely to be permanent. There is good reason for believing that the mortality of the operation in skilful hands will be a low one. The experiments of Reichel already alluded to demonstrate beyond a doubt the possibility of a certain immunity resulting from auto-inoculation with pyogenic material. There seems to be good reason for believing that this comparative invulnerability thus acquired renders the peritoneum more indifferent to traumatism than in its normal condition. It is a clinical fact that an intra-peritoneal operation on a subject who has had several attacks of subacute or chronic peritonitis is, *ceteris paribus*, a less serious affair than if the same operation is done on a patient whose peritoneum has hitherto been uninvaded by disease or for operative purposes.

CASE 9.—In a relapsing case the appendix was buried in dense adhesions posterior to the cæcum and was firmly adherent by its tip to the iliac vein. The union was so intimate that I tied off both tip and base and removed the intermediate portion, which showed a small perforation. There was present a general plastic peritonitis. The patient, who had only recently recovered from a severe attack, was extremely emaciated and had the typical facies abdominalis, and yet six hours after the operation, which took three-quarters of an hour, his temperature was normal, his pulse 102, he had a movement of the bowels, and expressed himself as feeling better. He is now making an excellent recovery.

If the indications for operation are clear I think that the question as to whether it shall be done between or during attacks must be unhesitatingly decided in favour of the period of quiescence, the operative difficulties being then much less, especially as regards the important question of possible general infection. In the recurrent type, if operation is to be considered at all, it would be well to take the inappreciable risk of waiting for another attack which may never come. In the chronic relapsing cases, however, if the surgeon in deciding upon operation limits himself to the following indications formulated by Treves, which fairly express those of many surgeons in this country, myself included, he had far better take advantage of the interval. Operation is indicated when (1) the attacks have been very numerous; (2) the attacks are increasing in frequency and severity; (3) the last attack has been so severe as to place the patient's life in considerable danger; (4) the constant relapses have reduced the patient to the condition of a chronic invalid and have rendered him unfit to follow any occupation; and (5) owing to the persistence of certain local symptoms during the quiescent period there is a

probability that a collection of pus exists in or about the appendix. The operation itself may be one of the easiest in abdominal surgery or so difficult as to be impossible in its entirety if due regard is had to the survival of the patient.

[It has been found necessary to publish merely a selection of the cases quoted, on account of pressure on our space.—ED. L.]

NEUROLOGICAL FRAGMENTS.

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(*Continued from p. 275.*)

No. XIV.

THE LOWEST LEVEL OF THE CENTRAL NERVOUS SYSTEM—THE STUDY OF TABES DORSALIS, AND SOME OTHER NERVOUS MALADIES, AS OWING TO DISEASE OF THIS LEVEL AND ITS IMMEDIATE CONNEXIONS.

I HAVE[1] implied that tabes dorsalis should be considered as a disease of the Lowest Level of the central nervous system. This level is, I believe, much the same as Marshall Hall's "True Spinal System." It is necessary to say something of the higher levels; we are concerned with them as well as with the lowest level in an analysis of the symptomatology of tabes; obviously we have to take them into account when dealing with the ataxic gait; walking is of cerebral initiation, although largely of lowest level performance.

I divide the central nervous system into two Sub-systems—Cerebral and Cerebellar. The lowest level of the cerebral sub-system is also, I suppose, the lowest level of the cerebellar sub system; it is the cerebro-cerebellar level. However, no motor connexions[2] between the cerebellum and the spinal cord (motor centres of the lowest level, as I should say) have been yet proved to exist. There certainly are afferent fibres from certain centres of the cord to the cerebellum. I shall, for the most part, ignore the cerebellar sub-system in this and in subsequent notes, and shall speak of the lowest level *as if* it were the lowest level of the cerebral sub-system alone.

The foregoing and what is to follow on the hierarchy of nervous centres is, of course, hypothetical.

Each of the three levels of the cerebral sub system is sensori-motor,[3] but I shall limit illustration to the motor provinces of the levels (companion sensory provinces being understood). (1) The anterior horns of the cord and the motor nuclei of cranial nerves—a homologous series of lowest motor centres—make up the (basis of the) motor province of the lowest level. (We may say that the motor centres of this level are a series from the nuclei for ocular movements to the anterior horns for movements of the perineum; perhaps, in another way of speaking, we may say that it extends from the tuber cinereum to the conus medullaris.) (2) The centres of the Rolandic regions of the cortex make up the motor province of the middle level. (3) The centres of the præ-frontal lobes make up the motor province of the highest level. I am, however, I fear, almost alone in the supposition that the præ-frontal lobes are motor.

The foregoing account of the constitution of the lowest level, merely provisional, is incomplete; several centres, among them the gracile and cuneate nuclei, have been ignored. Even so far as the account goes it is in mere outline. In particular the morphological groups of cells, anterior horns and motor nuclei of cranial nerves, which I call motor centres of the homologous series, ought, so far as our present knowledge permits, to be distinguished into centres proper. I shall return to this subject and shall in another note speak of Superior Centres of the level, to which centres of the homologous series are subordinate. It is because there are superior centres that I spoke of the homologous series of motor centres (anterior horns and nuclei of motor cranial nerves) as making up the *basis* of the motor province of the lowest level.

Manifestly in very many cases of tabes dorsalis there is disease of more than of elements of the spinal cord. But it was a blunder to speak of this malady as I did by implication (*loc. cit.*) as being owing to disease of the lowest level alone, of its intrinsic elements only. The intrinsic elements, the elements of the level itself, are a series of centres with their interconnecting fibres.[4] What I call extrinsic elements are fibres which, although in some of their course part of the *morphological masses*, cord, medulla, pons, &c., are not elements of the anatomico-physiological community I call lowest level, but are (*a*) fibres connecting centres of the level with parts of the body (fibres extrinsic downwards), and (*b*) fibres connecting its centres with centres of higher levels (fibres extrinsic upwards).

I will, for illustration of the terms used in the foregoing, take the case of the Ataxic Paraplegia of Gowers. There is in this malady disease of fibres of the posterior columns (fibres extrinsic downwards) which connect centres of the lowest level with parts of the body; there is also disease of fibres of the pyramidal tract[5] (fibres extrinsic upwards) which connect centres of the lowest level with those of a higher, the middle, level. So far, although there is disease of the morphological mass, the cord, there is no disease of any part of the lowest level itself. If in a case of ataxic paraplegia, muscular atrophy were to supervene due to disease spreading to anterior horns, there would then be disease of elements of the level itself, of some of its motor centres (intrinsic elements).

Fibres of the pyramidal tract are fibres extrinsic upwards of the level not only within the cord, medulla and pons, but also in their further course (through the crus cerebri, the internal capsule and the corona radiata) to the motor province of the middle level. In the case of hemiplegia, from destruction of motor fibres of one internal capsule, there is a negative lesion of fibres of the same tract as there is in lateral sclerosis of the cord, of fibres extrinsic upwards; or equivalently there is a negative lesion of fibres inter-connecting motor centres of the lowest level, and motor centres of the middle level. Fibres of the posterior columns of the cord are extrinsic downwards of the level as much as their continuations are in their after course to the periphery.

To return to tabes dorsalis. Certain extrinsic elements of the lowest level are those especially diseased in many cases of tabes. Speaking with regard to one symptom, ataxy, fibres of the posterior columns are sclerosed (negative lesion), and these, though solidly part of the morphological mass, the cord, are extrinsic elements (downwards) of the anatomico-physiological community I call lowest level. To illustrate more particularly: certain fibres of Burdach's column are extrinsic downwards all the way from the cuneate nucleus, a lowest level centre, to the periphery.

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[1] Brit. Med. Jour., July, 1888.

[2] Marchi has described descending degeneration of fibres of the circumferential part of the antero-lateral column of the cord after extirpation of one lateral half of the cerebellum. But his observations have not been confirmed by Ferrier, Aldren Turner, and Risien Russell.

[3] Although in the text I speak of the middle and highest levels as sensori-motor, I ought to say that Charlton Bastian has long held that there are no motor centres of the central nervous system higher than the anterior horns of the cord and the motor nuclei of the medulla, pons, and aqueduct of Sylvius. He believes that the Rolandic region of the cerebral cortex is sensory and that it is the region in which are registered the mixed body of impressions accruing from our different movements—these being in part superficial, cutaneous, impressions, and in part deep impressions of various kinds emanating from muscles, fasciæ, tendons, and articular surfaces. He contends that, "A mixed body of impressions of this kind is evoked as a result of every movement, and this group of impressions is revived in memory as though it were a simple impression immediately anterior to the reproduction of each of such movements" ("Hysterical or Functional Paralysis," 1893, p. 737). Hence he calls the centres in which such impressions are registered Kinæsthetic Centres. He, of course, agrees with those who hold that the centres of the Rolandic region are motor, that upon destruction of these centres there ensue paralysis and "descending" degeneration of the pyramidal tract; but he thinks that the fibres of this tract are not motor although efferent from the sensory, that is, Kinæsthetic, Centres of the Rolandic region to the anterior horns of the cord and motor nuclei of cranial nerves. The centres of the Rolandic region are, on Bastian's view, at once the receivers of fibres from contracting muscles and other coacting parts and the givers-off of fibres (efferent not motor) to the anterior horns which, with their higher homologues (nuclei of motor cranial nerves) are the sole motor centres of the central nervous system. He thinks too that discharge beginning in this or that part of the Rolandic region produces convulsion (by intermediation of anterior horns &c.), beginning in this or that part of the body. Bastian's opinions on the nature of the representation by the Rolandic region are being accepted by an increasing number of eminent neurologists. Those who agree with him will, I hope, have no difficulty in substituting his terms and the opinions they imply, for the terms and opinions set forth in the text.

[4] Although I use the words "connexion by fibres" that expression is not to be taken literally; it is to be taken as standing for any sort of junction, definite or indefinite, or, so to say, for any contrivance by which different nervous elements can influence one another.

[5] Fibres of the pyramidal tract are chiefly affected in the lateral sclerosis of cases of the ataxic paraplegia of Gowers, and in one or two cases the sclerosis was limited to fibres of these tracts. Gowers, "Diseases of the Nervous System," vol. i., second edition, p. 456

Still I think tabes should be studied *with regard to the lowest level*, as elements intrinsic and extrinsic of different regions of it are diseased. What I call extrinsic elements, although no part of the level itself, are fibres *directly* connected with its centres. It is convenient to use such terms as "medulla region" and "cord region" of the level, and such as "dorsal" and "sacral," and also "spinal" and "supra-spinal" region of the level.

Tabes is in some cases a malady made up, so to say, of several different sub-maladies. Numerous parts (theoretically all parts of the body, if we take numerous cases to fill up the type), are "fields of symptoms" in this clinical entity. If tabes be owing to disease of intrinsic and extrinsic elements of different regions of the level (not of those of its cord region alone), there should at least be a series of *symptoms* referable to disease of extrinsic and intrinsic elements of several (theoretically, if we take many different instances, of all), regions, supra-spinal as well as spinal, of the level. This is in accord with the evolutionary status of the level. For its centres represent all parts of the body—motorily all parts from iris or ciliary muscle to sphincter ani and—with the exception of Superior centres of the level—represent all parts directly, or by intermediation of ganglia of the sympathetic. There are in some cases of tabes symptoms referable to disease of extrinsic or intrinsic elements of or towards the two extremes of the level—the Argyll-Robertson symptom and incompetence of the sphincter ani[6]—and there are in some cases symptoms referable to several regions of the level between its extremes. What is of more importance—speaking now with reference to the suggestion that tabes may be regarded as a series of lowest level sub-maladies, not merely as a series of symptoms—is that the lowest level *in comparison with the higher levels* represents parts or systems (digestive, circulatory, &c.), of the body in detail; it represents them (I say again, in comparison with the higher levels), with considerable, not complete, independence of one another. And since the several parts or systems thus represented are exceedingly different, we have in cases of tabes sub-maladies so diverse as, to mention but some of them, Rectal Crises from disease of intrinsic or extrinsic elements of the sacral region of the level, Ataxy of locomotor movements of the legs from disease of extrinsic fibres (fibres of the posterior columns), in its lumbar regions, Laryngeal Crises from disease of extrinsic or intrinsic elements of the medulla region of the level, and the Argyll Robertson Symptom from disease of intrinsic or extrinsic elements of a region of the level higher than its pontal region. There are, in cases of tabes, ocular, laryngeal, gastric, intestinal, locomotor, vesical, rectal and sexual sub-maladies. For the interpretation of at least some of these sub-maladies, we shall have to take into account Superior centres of the level.

I will stay to speak briefly and in outline of the evolutionary constitution of the lowest level, so far as I have incompletely defined it, dealing only with the motor elements of this sensori-motor level.[7] There are four factors in evolution. The lowest level (that is, in comparison with higher levels of the cerebral sub-system, say, with its highest level, (1) represents few *different* movements (little differentiation) little complexity); it (2) represents movements of little definiteness, movements for less particular ends (great generality, otherwise little specialisation); (3) its centres represent in detail—that is, each centre represents some district of the body (little width of representation by each centre, that is, little integration); the centres of the level are (4) little inter-connected (little association of centres; little coöperation).

Whilst saying that the lowest level is least complex, &c.' and that the highest level is most complex, &c., we must bear well in mind that the former is the most strongly organised and therefore the least modifiable of all the levels; and that the latter is least strongly organised, and, therefore, the most modifiable of all the levels. Most generally the more simple (less complex), &c., a centre the more strongly is it organised and the less is it modifiable; the more complex (less simple), &c., a centre the more weakly is it organised and the more is it modifiable. Were not the cardiac, the vaso-constrictor, and the respiratory centres of the lowest level more strongly organised inheritedly than are the centres of the highest level, life would be impossible; if the centres of the highest level (those concerned during mentation) did not continue to be (in comparison with those of the lowest level) little organised and thus very modifiable, few new acquirements would be made. The centres of the lowest level, to speak figuratively, make few mistakes, but do not develop much after birth in comparison with those of the highest level; the centres of the highest level make many mistakes, are less prompt and sure in their operations, but after birth they develop very much in comparison with those of the lowest level. And as to the fourth factor of evolution: whilst the centres of the lowest level have few inter-connexions and those of the highest many, the inter-connexions of the former, being strongly organised, ensure much more nearly inevitable coöperation than do the weakly organised connexions of the latter.

Perhaps the four assertions made under the formula may be thought to apply only to the centres of the lowest level which are concerned with organic duties. The centres of the lowest level which subserve the highest level in animal duties (to speak popularly, "which act under the command of the will") are by themselves little without the higher levels: on this matter I remark later. I submit that to centres of the lowest level concerned with organic duties the formula does apply. I limit further remarks to representation of the parts engaged in these duties; the lowest level by itself represents them very efficiently. The operations by the digestive, circulatory, and respiratory systems are certainly (1) simple, few *different* movements (obviously in the case of muscular walled tubes, arteries and intestines, the movements of which parts can differ but little from one another); the movements are for (2) very general ends, for in one case, aeration of the blood at all times; (3) each of its centres represents some district of the body (representation by the lowest level in detail); (4) the centres representing the several systems are in but little coöperation (in comparison with those of the higher levels).

To say that the lowest level represents organic (visceral) parts, including, of course, their apparatuses, in detail (Factor 3) may seem untrue; I will consider the case of the respiratory system. I have so far been dealing only with what I called the homologous series of centres of the lowest level; centres of this series do represent the respiratory apparatus in detail. There are centres (laryngeal) in the medulla region of the level for movements of the laryngeal muscles; there are centres in the cervical region (phrenic) for movements of the diaphragm; and there are centres in the thoracic region (costal) for movements of the intercostal muscles. I have yet to speak of Superior Centres of the level. One of these, the respiratory (medulla) centre, governs the respiratory apparatus by inter-mediation of motor centres, laryngeal, phrenic and costal, of the three regions of the lowest level mentioned. But of course this Superior Centre is a part of the evolutionary constitution of the level and must be taken into account. I shall speak on this matter in a future note.

The foregoing, as to the evolutionary constitution of the lowest level, is, as I have several times declared, said of it *in comparison with the evolutionary constitution of the highest level*. The following is, of course, hypothetical. The motor province of the highest level (1) represents most numerous *different* movements (great complexity, great differentiation); it (2) represents movements of great definiteness (great specialisation); (3) its centres represent widest regions of the body, if, indeed, each is not universally representing (great width of representation, great integration); (4) its centres have most numerous inter-connexions (great coöperation). The physical condition for insanity, I mean the condition produced by disease, is a negative lesion of more or less of the highest level—synonymously, anatomical substrata of consciousness, so-called "organ of mind." Although there are different *kinds* of insanity (different insanities) implying disease of different areas of the highest level, yet any insanity is an abnormal state of a whole person; physically there is disease of, or of parts of, sensori-motor nervous arrangements which represent all parts of the organism in most complex, &c., ways. There are different kinds of insanity, but there are no sub-maladies in any case of insanity.

[6] The topographical extremes of the body are the crown of the head and the soles of the feet, but these are not the anatomical extremes. The soles of the feet are supplied sensorily by the third and fifth lumbar posterior roots. The perineal district is supplied, in part at least, by lower, sacral, roots. The legs are supplied motorily and sensorily by centres of the level above those supplying the perineal district. (See an admirable paper by Allen Starr, Amer. Jour. Med. Sci., July, 1892, one of extreme scientific interest and also of great practical value.)

[7] Although I use terms which are more familiar to medical men than are the terms Herbert Spencer uses, I am, I believe, essentially adopting his formula of evolution. He is, of course, not to be held responsible for the terms I use nor for their application. I should be sorry if any crudities of mine were imputed to him.

I submit that in tabes each part of the body should be studied in detail, as it is the "field of symptoms"—as each case is a series of more or fewer sub-maladies"—that it is well, for example, to analyse separately the "crises," the abnormal pupillary conditions, the ataxic gait, &c., before we deal with the different sub-maladies we encounter in single cases, as together making up a more or less Compound Malady owing to one kind of disease—destruction the result of one kind of pathological process—of intrinsic and extrinsic elements of different regions of the lowest level. And I submit that tabes should not be spoken of as being owing to disease of the cord, but as resulting from disease of intrinsic and of extrinsic elements of different regions, often supra-spinal as well as spinal, of the lowest level.

A SUCCESSFUL CASE OF PYLOROPLASTY.

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A WOMAN aged forty-eight years was sent by Mr. Sheraton of Sedgefield to consult Dr. Drummond, who placed her under my care. The patient was suffering from vomiting and gastric pain. Her illness had commenced five years previously with an attack of vomiting. Similar attacks recurred every three months or so. Since the first seizure she had been unable to take any but the lightest forms of food. Beef or any heavy meal brought on an attack. In the early part of last year the attacks of sickness became more frequent and were accompanied by pain. Since the middle of July, 1894, she had been a complete invalid, with the following symptoms: For two or three days, provided she took very little food and that only of a liquid or farinaceous kind, she would feel fairly well; then a "lump" would gradually form in the umbilical region, producing sensations similar to those experienced during the later stages of pregnancy when the child is moving vigorously about. The "lump" after a time became hard and painful, and violent vomiting accompanied the pain. After lasting for two or three days these troubles disappeared, and for a short time relief was obtained, so that each week was divided into two nearly equal periods—one of pain and sickness, the other of comparative ease. The vomited matter had a frothy, yeasty appearance, an offensive odour, and in quantity always exceeded what had been taken. Early in July she ate a small portion of cabbage, and for three days afterwards she noticed traces of it in the vomited matter. Latterly she had observed that the vomit contained material like coffee grounds and that her stools were black. Her previous health had been good except for a liability to indigestion, more marked during the last twenty years. She had had seven children and one miscarriage. A sister had died from phthisis at the age of twenty-six years. There was nothing else worthy of note in her family history. On Oct. 6th, 1894—i.e., two days after coming to Newcastle—the ordinary vomiting attack came on. Nothing was allowed by the mouth, and nutrient enemata were ordered. On the 7th the patient vomited, from 3 A.M. to 10 P.M., three pints of yeasty, fetid, brownish fluid. She had passed a restless night. On the 8th she vomited about ten ounces of blood. The nutrient enemata were ordered to be continued. On the 9th she vomited some blood at 11 A.M., just before I saw her for the first time. Dr. Drummond and I agreed to wash the stomach out. This was done at 2 P.M. Immediately after washing a small quantity of milk, barley water, and brandy were administered. There was no more vomiting at the time. The fluid removed from the stomach was brown in colour, with a fetid, yeasty odour, and contained changed blood. From this time to the date of the operation the treatment consisted of daily stomach lavage, the frequent administration of small quantities of liquid nourishment by the mouth, and the use of nutrient enemata. On Oct. 15th the following note was made of her condition: "The patient is much emaciated and weighs only 5 st. 1 lb.; she has no appetite; the complexion is sallow and the expression anxious; the abdomen is retracted and flat except over the epigastric, left hypochondriac, left umbilical, and left lumbar regions, which are elevated by the distended and dilated stomach, the shape of which can be fairly made out through the thin and flaccid abdominal walls. On palpation succussion sounds are elicited, and just above the umbilicus and immediately to the right of the middle line a firm nodule the size of a walnut is to be felt. After the stomach has been emptied by the tube the nodule can be picked up between the finger and thumb. It is movable in every direction and when pressed directly backwards has pulsation communicated to it by the aorta. Percussion corroborates the belief that the stomach is much

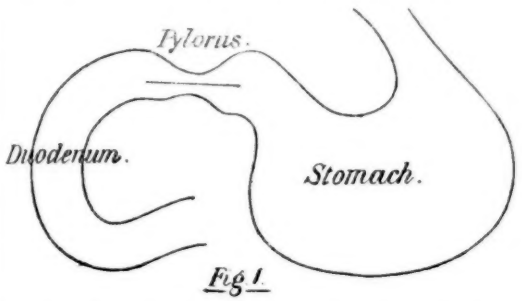

Fig 1.

dilated. All the other organs of the body appear to be healthy." On Oct. 16th the Heincke-Mickulicz operation was performed. On opening the abdomen the nodule described was found, as was anticipated, to be the pylorus. Taken between the finger and thumb it felt thickened and resisting, as if an indiarubber ring was embedded in it. The stomach was opened one inch above the pylorus and an attempt made

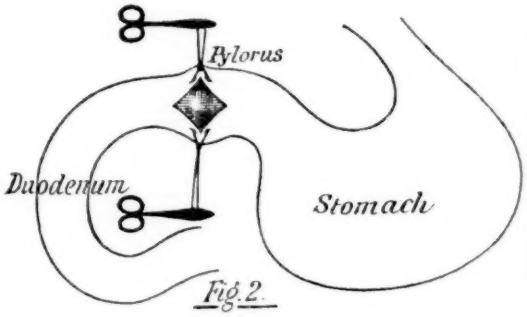

Fig. 2.

to pass the little finger through this opening into the pylorus. The pyloric orifice was, however, found to be so small that neither the little finger nor a pair of small clip forceps, closed and introduced subsequently, would pass through it. The incision made in the stomach was then prolonged with scissors through the middle of the exposed anterior portion of the pylorus for about an inch into the

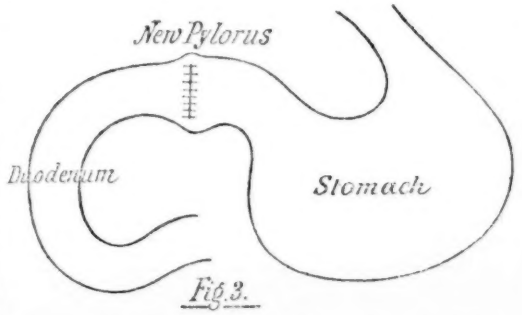

Fig. 3.

duodenum. (Fig. 1) The pyloric ring was firm and thick. There was no evidence of old ulcer, scar, or puckering. Drawing apart the middle of each side of the longitudinal incision converted it into a transverse one. (Fig. 2.) This position was permanently secured by a first row of sutures passed close to the edges of the incision through all the

coats of the stomach and duodenum, and a second row through the peritoneum only, in Lembert fashion, burying the first. (Fig. 3.) The operation was completed by closing the abdomen in the ordinary way, and occupied half an hour. The patient, notwithstanding her feeble condition, stood it well. Immediately after being put to bed she was slightly sick. For the first twenty-four hours nothing was given by the mouth. Nutrient enemata were administered every two hours. Twenty-eight hours after the operation teaspoonfuls of hot water were given occasionally. On the third day small quantities of barley-water and milk were given by the mouth and the nutrient enemata were continued. On the evening of this day, after having barley-water and milk, she felt a pain "as if the fluid was passing over a raw surface out of her stomach." On the fourth day she had arrowroot and milk, with mutton broth. On the sixth day she complained of feeling hungry, a sensation she had not experienced for years. On the tenth day the dressing was removed for the first time and the wound was found to be entirely healed. At this time she was having regular meals of bread-and-butter, tea, eggs, fish, and potato. During her convalescence the pulse and temperature never rose above normal, and she made steady progress from the day of the operation.

On Nov. 8th (three weeks after the operation) the patient was shown at a meeting of the Northumberland and Durham Medical Society. She was then in good health and weighed 6 st. 1 lb. (a gain of 1 st.). On Jan. 21st, 1895, she writes: "I am glad to say I am keeping very well, and I weigh 8 st. 6 lb. I don't think I ever weighed so much in my life, and nothing disagrees with me."

Newcastle-on-Tyne.

CASE OF GENERAL PARALYSIS OF THE INSANE IN A CHILD.

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THE following is the record of a case of general paralysis, beginning at the very unusually early age of ten years and eight months in a girl of average intellect, running a course similar to that most commonly observed in women, and ending in death after a steady breaking down of the bodily and mental powers during a period of two years and four and a half months. An interesting point in the clinical history was the presence for about six months of very marked "facial irritability" (Chvostek's symptom). We have recently observed this symptom in another case of developmental general paralysis—a young woman aged about twenty years—and in a case of ordinary general paralysis. In many of the cases of general paralysis beginning in early life that have been reported, congenital syphilis has been looked upon as an important etiological factor.[2] Whether it was so in the present instance must remain an open question, for, although we could obtain no decisive facts, our investigations left a strong impression on our minds that the presence of syphilis in the parents was quite within the range of possibility. The post-mortem appearances were perfectly typical of advanced general paralysis and put the nature of the case beyond a doubt.

The patient, a girl aged eleven years and five months, was brought to the Dispensary of the Royal Hospital for Sick Children, Edinburgh, on Dec. 7th, 1892. Her mother complained that her daughter was very nervous—constantly shaking—and that she was quite unable to do any lessons. The condition had lasted for more than nine months. The father was a strong, healthy-looking man. He admitted that he occasionally drank too much, but denied having ever had any venereal disease. There was no history of nervous or mental disease in his family. The mother was nervous and excitable; she had the reputation among her neighbours of being intemperate. Her mother's brother became insane in old age. The patient was the youngest of seven children. One had died from hydrocephalus; two (immediately preceding the patient) were stillborn; the other three were alive, and healthy with the exception of the eldest, who suffered from "abscesses." None of the children had had snuffles or a rash during early infancy. There had been no miscarriages. The mother had good health during pregnancy. The child had no symptoms suggestive of syphilis as an infant, and she had always been looked upon as strong and healthy. Her mother said she was "the most easily brought up of her children," and that she never had any bad habits or mental peculiarities. She was a natural, bright, affectionate child, who did her lessons fairly well and took a good place at school.

Nine months before I (Dr. Thomson) saw her she had been promoted by the schoolmaster of the Board School from the fourth to the fifth standard after some sort of an examination. At that time, apparently, nothing abnormal had been noticed about her by anybody. Shortly after beginning the work of the higher standard, it was noticed that she was quite unequal to it and seemed to be getting less and less intelligent. She was, therefore, after a few weeks, put back into her former class. She was then found by the teacher who had taught her before to have changed very much in her capacity, and to have become so stupid that she could scarcely be taught anything at all and had forgotten a great deal of what she knew quite well before. She could not do the very simplest sums, and it seemed to be impossible to teach her even a single line of poetry by heart. It was also noticed that her speech was slower than it used to be, and that her handwriting was worse, the strokes being "thin and like a saw." At home it was also seen that she was getting more stupid. She had to be told over and over again to do simple things and had to be shown exactly how to do them or she did them wrong—e.g., she tried one day to sweep the floor with the wrong end of the broom. If sent with a message she forgot it unless she repeated it over and over again to herself on the way. Her hands were very unsteady; she often let cups fall, and she dropped her stitches when she tried to knit. No cause could be assigned for the onset of her illness. She had become steadily worse on the whole, although she was sometimes brighter than at other times.

The following are the notes taken at the time:—"On examination the child is found to be fairly well nourished, but under-sized and poorly developed. Her height is 47½ inches and her weight 4 st. ½ lb. No sign of congenital syphilis can be found. The cranium is normal in size and shape. A prominent ridge is felt in the position of the frontal suture. The palate is somewhat high, but not very abnormal. The teeth also are not abnormal in shape, and the ears are well formed. There is a marked absence of expression about the upper part of her face. The heart, lungs, and abdominal organs are normal. The pulse is 96 to 100 and regular. Her attitude and gait are peculiar. She stands with her shoulders forward and her arms hanging down in front. She always keeps her hands closed pretty tightly, generally over a penny or some other small object, and her mother has difficulty in opening them when she is washing her. In walking she keeps her legs rather far apart, bends her knees very little, and takes small steps. As one of her neighbours says, she 'walks like a baby.' Her muscular movements are accompanied by a coarse tremor. This is very distinctly seen in her hands if she tries to do anything with them or to hold them still and extended; and its traces are very noticeable in her writing, which is very characteristic. The tremor is also extremely marked in her tongue when she protrudes it, and in her lips and lower jaw at the same time. When she puts out her tongue she tries to steady it by compressing her lips tightly upon it. Her voice is slow and hesitating and distinctly suggestive of general paralysis. Her eyes have been examined by Dr. E. E. Maddox, who finds sufficient hypermetropia present to account for her convergent squint and also for her rather small pupils. The pupils react very slowly and only slightly to both light and accommodation. The left is somewhat larger than the right, and both are somewhat irregular in outline. Owing to the child's extreme restlessness and the smallness of her pupils it is found impossible to get a good view of the fundus, but nothing abnormal can be seen. The child is somewhat deaf, especially on the left side. In other respects the special senses seem normal. The knee-jerks are present equally, but not strongly, on both sides. Her mental condition is very dull. She has to be

[1] Dr. Thomson is responsible for the clinical, and Dr. Dawson for the pathological, notes.

[2] Clouston: Neuroses of Development, p. 75. Middlemass: Journal of Mental Science, January, 1894.

told several times to do anything before she does it, the delay being evidently due to slowness of comprehension and not to disobedience. When once she understands what is wanted she repeats it over and over again—e.g., she had to be told many times to put out her tongue before she did it, but for some minutes after, when asked what her name was, or any other question, she replied by putting out her tongue. Her mother says that she seems to wander from one subject to another and never to adhere to the same one for any time. She reads aloud pretty fluently, but evidently does not understand what she is reading. She can name any numbers at once, but cannot add 2 and 1 or 2 and 4 together. She can name ordinary articles, such as pencils, penknives, &c., but seems unable to count them if there are more than three. If told to count up to 100 she does so pretty correctly up to 40, but misses a good many of the higher numbers without seeming to notice her mistake. She takes no interest in dolls or in any other amusement. She is very easily frightened by noise, and starts and trembles if spoken to suddenly or roughly. She seems to be annoyed by her own stupidity; she reddens when she fails to answer or to do some simple act; and when she finds herself unable to put on her boots (as happened once, owing to her having laced them up first) she cries with vexation."

During the first few weeks she was under observation she had many hallucinations and delusions. For example, one day she said to her mother that a boy had told her that a little girl she knew well was dead, and she sat looking out on the street for more than an hour, saying that she was seeing the coffin. The child in question was not even ill. Again, she frequently blamed her sister for stealing things from her which she had never possessed, and she several times told her mother that she had met and been spoken to by friends who, as was afterwards proved, had not been in the neighbourhood on that day. At night she usually lay awake a long time talking to herself loudly, and often repeated words over and over again—e.g., "Mary Jane stole the purse and there was sixpence in it." In January and February, 1893, a distinct temporary improvement occurred. The trembling was less, so that she could hold cups, &c., better, and she was more reliable in taking messages and a little quicker in doing what she was told. In February it was noticed that on percussion on the cheek below the molar bone there was marked "facial irritability" on both sides, precisely similar to that obtained in cases of tetany and laryngismus. The pupils became more distinctly irregular in outline. Towards the end of February she began to get worse again in every way. The trembling became so bad that she could not feed herself, and she ceased to be able to thread a large needle or to hold a pen. In March she began to have incontinence of urine both at night and during the day, and also for the first time she seemed to have difficulty in protruding her tongue when she tried to do it. On April 9th it was noticed that she constantly held her body over to the left side both when sitting and when standing, so that the right shoulder appeared to be about two inches higher than the left. This persisted for several days. About this time she became more irritable, starting and crying on the slightest provocation. If left alone she was generally pretty quiet through the day and free from hallucinations, but she was often restless and noisy at night. She could still write, but very irregularly. Towards the end of April she was worse. She sometimes did not know her own parents, and thought that she was away from home. For two days she refused to open her mouth, and had to be fed forcibly with a spoon. In May she improved again very much, getting fatter and more cheerful. Her speech was a little better, and she began again to try to knit. This improvement lasted for about six weeks. In June she gradually became worse again, and began to have prolonged fits of screaming at the pitch of her voice. Sometimes when she screamed she said that a little boy who lived on the opposite side of the street was beating her. On June 26th her mother heard her screaming in the next room, "Go away with you!" "Take it away!" &c., and when she went to see what was the matter she found the child pointing at a fly which was crawling on the table, and saying that it was a big dog and that it frightened her. About this time the child could not be got to put out her tongue or to hold anything in her hand. The "facial irritability" was beginning to be less marked. During July she had several attacks, in which she fell over to the left side and was very weak and confused, but towards the end of the month she improved greatly, recognised her parents, was less nervous, took her food better, and began again to feed herself for the first time for many weeks. During the autumn of 1893 she continued to lose ground; she became thinner and weaker, and often seemed to be very cold. She could no longer write at all. Occasionally she recognised her parents and friends, but often she did not do so. She was unable to feed herself or to take a drink without help, and never asked for food, although she took it readily enough when put into her mouth. She had complete incontinence of urine and fæces. She usually leant over to the left side as she sat, and from time to time she had "turns," in which she fell to the left on to the floor if she was not caught. The "facial irritability" had entirely gone, and did not return; but she was still very nervous, starting and grimacing if any quick movement was made near her. She often had screaming fits which lasted for hours, and occasionally would laugh for an hour at a time, equally without apparent cause. She often also repeated one or two words over and over for an hour or two at a time, but at other times would sit quite quietly for many hours together. On Oct. 7th, 1893, she was admitted to the Royal Edinburgh Asylum. During her stay there the disease steadily progressed, but no new symptom developed. She gained considerably in weight, but her mental condition was in no way improved. Soon after she was taken home (Nov. 2nd) it was found that she could no longer stand. She lay in her bed all day with her limbs flexed on her body, seeming to notice nothing and rarely recognising anyone, even her mother. Now and then she suddenly distorted her features as if in pain, and she often cried. When told to put out her tongue she would open her mouth, but seemed unable to do more, and when asked to give her hand she moved it towards one a little. She could no longer repeat any words when asked. Within a fortnight of leaving the asylum bedsores began to form on her back and over the trochanters, and they continued spreading in depth and extent up to the time of her death, in spite of careful treatment. In February, 1894, after saying nothing for six weeks, she began again to repeat a few words. Towards the end of the month she improved further, and seemed brighter and happier than she had been for many weeks. On one occasion, when a book was given her upside down, she seemed to recognise the mistake. After February she never spoke at all; she seemed not to understand when asked to give her hand or to put out her tongue, and she steadily emaciated. During May she continued getting weaker. Her temperature was usually 99° to 100° F.; her pulse 130 to 140; and her respiration 36 to 40, and very shallow. Her right thigh was flexed fully on the abdomen and could not be straightened, but the left could be extended almost completely. Any passive movement of her lower limbs appeared to hurt her very much. During June and the earlier half of July very little change took place. On July 13th she became unconscious and remained so until she died on the 22nd. For the last two days of her life there was constant rhythmical rotation of the head to the left and movement forward and inward of her right upper arm at the shoulder-joint.

Pathological report.—The diagnosis received full confirmation from the necropsy, which was made on July 22nd, 1894, twelve hours after death. Although the weather was very warm, post-mortem rigidity had not passed off, and there was little or no lividity. The pupils were of medium dilatation. The body was excessively emaciated, and bedsores had formed over the sacrum and both great trochanters. There was a slight degree of the malformation known as pigeon-breast; the abdomen was strongly retracted, the limbs were more or less firmly fixed in a position of flexion at the knees, hips, and elbows, and the shoulders were also fixed. A small amount of pubic hair was noted, but the figure and mammary development were those of a young child. On examining the head the scalp was not found to be unduly adherent, but the skull-cap, the inner and outer tables of which were thickened (partly at the expense of the diploë), had contracted adhesions with the dura mater, especially along the superior longitudinal sinus. The sinuses contained red and white clot and were engorged, as were the veins opening into them from the pia mater, whilst the dura mater itself was everywhere thickened, and in some places was separated from the bone by a false membrane, the latter a somewhat rare condition, constituting the pachymeningitis externa of German writers.[2] In addition to this, however, the dura mater over the whole

[2] See, for example, Ziegler: Pathologische Anatomie, seventh edition, Band ii., p. 377.

extent of the cerebrum was lined with a false membrane, which varied greatly in thickness, being merely a thin film in the middle cranial fossa, whereas over the parietal regions it was fully a quarter of an inch thick in places. This membrane was adherent to the arachnoid all over the vault, though not very firmly, except in the part corresponding to Broca's lobe, where a fibrous band was noted. It left the cerebellum uncovered, but was observed to pass downwards beneath the pons and medulla so as to invest the spinal cord also. The pia-arachnoid was congested and thickened, especially so along the vessels, and over the surface of the arachnoid a number of fine, white, non-adherent grains were observed, whilst a considerable amount of sub-arachnoid fluid gave the brain a jelly-like appearance when first removed. The pia mater was found to be universally adherent to the cortex over the cerebrum, and there was also an attachment between the anterior lobes of the brain just in front of the genu of the corpus callosum. There was marked superficial atrophy of the brain, most pronounced in the frontal and parietal regions, where the convolutions were very distinct and the sulci wide, and the encephalon as a whole was abnormally small, the cerebrum, cerebellum, pons, and medulla, with the small portion of cord removed with them, weighing only 26 oz. (of which the cerebrum made 21 oz.)—some 10 oz. less than the average at that age. On cutting into the brain the grey matter, both of the convolutions and the basal ganglia, was seen to be of a deep reddish-grey or brown colour, and its vessels were full of blood; but, whereas the cortex was tough in consistence, the ganglia were soft and friable. The former was everywhere atrophied, and in no region could the usual layers be distinctly made out in it. The white matter was pinkish in colour, and though of soft consistence was tough. The ventricles were dilated, and contained some turbid fluid, whilst the ependyma (at least, in the lateral ventricles) was thickened and tougher than normal. Fine granulations were visible on the floors of the lateral ventricles, whilst that of the fourth ventricle was covered with a great profusion of coarser ones. The soft commissure in the third ventricle was exceedingly tough. The choroid plexus of the lateral ventricles was congested and contained some cysts. The cerebellum showed much the same conditions as the cerebrum, except that there was no subdural membrane and the pia mater was not adherent. There was nothing very remarkable about the pons or medulla. The vessels of the cord, as elsewhere, were injected. Had any doubt still remained as to the nature of the disease it would have been completely removed by the study of the microscopic appearances. Sections of the cortex were cut by the modified fresh method of Bevan Lewis from the anterior part of the frontal lobe, the motor area, and the occipital and temporo-sphenoidal lobes, and were stained with aniline blue-black. The pia mater wherever retained was found to be thickened, while the tissue immediately underlying it was fibrillated and contained numerous spider cells. The latter were also visible in the deepest layer of the cortex, as well as (in some places at least) in its thickness, and they were detected in the white substance, especially near some of the arterioles. The capillaries were more prominent than normal, and their nuclei appeared to be multiplied in places, whilst the small arteries frequently showed great proliferation of the adventitia nuclei, and the perivascular spaces sometimes contained masses of pigment. The pyramidal cells, large and small, were in an advanced stage of degeneration, losing their processes and breaking up; but, on the other hand, the cortex contained an abnormally large number of round cells. The changes were unusually uniform all over the brain, but perhaps, on the whole, more advanced towards the anterior part. Sections cut from the cervical region of the (hardened) cord and stained by Vassale's modification of Weigert's method showed much degeneration, which, although somewhat diffuse, was especially marked towards the posterior parts of the posterior and lateral columns, and in a less degree in the region of the direct pyramidal tracts in front. Transverse sections of a nerve taken at random from the cauda equina and similarly treated showed many degenerated fibres. The false membranes, both inner and outer (sections of which, including the dura mater, were stained with hæmatoxylin and eosin), consisted of vascularised fibrous tissue, the most internal layers of which—i.e., those nearest the brain—had in some places acquired a homogeneous hyaline appearance. The vessels of the true dura mater were here and there dilated owing to the increased blood-supply required for the new membranes, and the dura mater itself, which was thickened, contained in places, in its actual substance, structures resembling in every respect the earlier stages in the formation of false membranes—i.e., a network of fibrinous bands containing round cells in its meshes—an interesting fact which was noticed and pointed out to us by Dr. W. F. Robertson. The minute white particles strewn over the surface of the arachnoid were not examined, but they were similar to particles seen by one of us in another case, and which appeared to be composed of fibrin entangling numerous colourless cells. Further observations, however, are required. As regards the other organs, little need be noted. The serous cavities were drier than normal. There was a slight adhesion over the apex of the right lung, and the latter contained a small, well-defined, yellowish nodule, which showed no signs of breaking down, and was possibly of syphilitic origin, as no distinct evidence of tubercle was elsewhere discovered. Both lungs were congested and slightly emphysematous, and the bronchial glands were enlarged, though not caseous. The heart, which was contracted, was healthy, and the vessels were normal, so far as examined; the liver was soft and flabby, with much fatty infiltration; the spleen was pale and soft; the kidneys were congested and fatty, the capsules being adherent in places. There was an hour-glass contraction of the stomach, rather nearer the pyloric than the cardiac end, but the rest of the intestinal tract seemed to be normal. The bladder was greatly distended. The uterus and ovaries were healthy.

FILTERS IN CONNEXION WITH THE SPREAD OF DISEASE.

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THE following two instances of the apparent distribution of disease through the medium of ordinary water filters, such as are commonly used in India, have been kindly communicated to me by Surgeon-Captain Aldridge, A.M.S., who on both occasions had the cases under his observation, and they appear to be of such high interest and importance as to deserve publication in THE LANCET. The cholera outbreak at Lucknow is already attracting public attention, and some of its details will now have a special interest. I will merely state the facts as observed by Surgeon-Captain Aldridge. The lesson to be learned from them and the conclusions to be drawn are obvious.

1. *Cholera.*—During the recent very serious outbreak of cholera among the troops at Lucknow the disease was almost confined to the East Lancashire Regiment (in which there were about 135 cases and ninety deaths) and to *one* ward in the station hospital. Amongst the other troops of all arms, European and native, there were only eight or ten cases in all. The disease was distributed pretty generally through the different barracks occupied by the East Lancashire Regiment; there were cases in ten out of sixteen barrack buildings. In the station hospital men in one ward only were attacked; this was the special ward in which the severe and acute cases of disease were under treatment—chiefly cases of enteric fever. In this ward about seven of the patients were attacked with cholera. The first case occurred about August 1st. In the regimental barracks nine cases occurred between July 19th and 28th. On July 29th about 350 of the men were sent into camp on the brigade parade ground close by, where they remained under the same condition of food and water-supply. Cholera continued among them, and these men were marched on August 1st to camp at Kakral, about six miles distant. Between July 29th and August 9th 117 cases occurred. Amongst the men about 250, who remained all the time in their barracks, there were far fewer cases than among those who went out into camp.

The milk-supply was from cows kept at the regimental barracks; the men consumed very little milk. The same milk was supplied to the married quarters, in which there were only a few cases of cholera, and to the Station Hospital, in which cases occurred in only one ward, and the disease could in no way be attributed to infected milk. The drinking water was from two wells, one for each division of the barracks, a road dividing the two divisions.

The wells are completely closed in and free from any ascertainable source of contamination. The water is pumped up from the wells into the filtering tanks, and thence drawn into buckets and passed through Macnamara's filters. The filtering medium of the tanks consists of sand and gravel. Filter tank No. 1 was recharged with new sand and the water again used on July 14th. The first case of cholera occurred on July 19th, the second case on July 24th, in the part of the barracks using water from this tank. Filter tank No. 2 was recharged with sand on July 21st or 22nd. The first case of cholera among the men using the water from this source occurred on July 24th. The filter-tanks in the barracks occupied by other corps were recharged under a separate contract and at different dates. Those in the barracks occupied by the Royal Irish Regiment, in which only one case of cholera occurred, were recharged six months previously. The mineral water factory of the East Lancashire Regiment obtained water from the same tanks as the barracks of the regiment, and supplied only the regiment and the station hospital. In the latter the aerated waters were chiefly used in the "special" ward in which cholera broke out. The men out in camp, when they moved from the station, had a different water-supply, but the same mineral waters, which were sent out daily in large quantities, as they were considered to be safe for drinking, and the supply was barely sufficient to meet the demand, so that they were drunk at once after manufacture.

The barracks occupied by the East Lancashire Regiment were separated only by a road from those of the Royal Irish Regiment, and the Station Hospital was alongside of the latter. The sand with which the filter tanks were recharged was said to have been procured from the banks of the Gumti River, about two miles from the station; there was at the time cholera among the natives, and, as is well known, the natives regularly resort to the banks of rivers and tanks to obey the calls of nature, to bathe, and to wash their clothes. The sand was said to have been washed and roasted before use, according to regulation, but this was done by the contractor who supplied it, and may have been done very imperfectly. A new pipe water-supply was introduced at the end of July, but the water was turbid at first, and its use discontinued. After a few days it was again brought into use, and for a week or so both water-supplies were used by the men remaining in barracks. On Aug. 9th the supply from the filter tanks was shut off, and cholera ceased from that date.

About Aug. 11th Mr. Hankin made bacteriological examination of the water used at the barracks. He reported as follows: "Water from wells Nos. 1 and 2, no cholera vibrios. Water after passing through filter tanks Nos. 1 and 2, cholera vibrios present in both. Soda-water freshly manufactured from this tank water, cholera vibrios present." This outbreak of cholera was practically limited to the men of the East Lancashire Regiment in barracks and camp and to those in the "special" ward of the hospital. The only condition that was common to these two sets of men and not to the rest of the garrison, and that could be connected with the outbreak of cholera, was the water that had passed through the filter tanks, some of which was used for the mineral waters.

The first case of cholera in each division of the barracks occurred from two to four days after the filter tanks had been recharged with sand, and the first case in hospital was a few days later, in the ward where the mineral waters were chiefly used. Many of the cases in camp occurred at a long interval (ten days) after the men had been removed, and had ceased using the water direct from the filter tank, but these continued to use the freshly manufactured mineral waters. The men sent into camp suffered very much more than those remaining in barracks. The latter used both the water-supplies—that from the tanks and new pipes—and they also consumed much less of the mineral waters. That men sent into camp during cholera epidemics suffer more than those who remain in barracks is by no means an uncommon occurrence, and the thought often presses itself on one that when cholera appears in a community sending the men into camp is a mistake. It is of course the generally accepted practice, founded apparently upon experience, that when cholera breaks out the men should be sent into camp and moved at short intervals, and in India regulations have been laid down in accordance with the idea. But what are the facts? When cholera appears, say, in a regiment, if during the first ten days the cases are at all numerous the men are moved out into camp. It then almost always happens that for the first few days or the first week in camp the disease increases, it then begins to decline and becomes less severe, and in the course of another week or so it finally ceases, except for a few isolated cases. This is the natural history and behaviour of the disease. In any restricted community it reaches its acme in about a fortnight, then gradually lessens, and in three or four weeks is at an end. Of course, in large towns or widespread communities it lasts much longer, but even in Hamburg the epidemic only lasted for about two months.

Up-country in India outbreaks of cholera almost always occur in the rainy season, when men in camp are exposed to great discomfort and suffering, and, far worse, to the sources of such serious diseases as malaria, dysentery, &c. Clearly they should not be subjected to such exposure unless the benefits are undoubted. With our present knowledge of the various ways in which cholera may be introduced into the system, many of which may be absolutely guarded against, it again requires consideration whether the men may not be safely left in cantonments and every possible precaution taken to prevent the food, the water, and the air (as by dust) being contaminated, and all other possible channels of infection. This can certainly be done more effectually in cantonments than in an exposed camp in the rainy season.

2. *Enteric fever.*—The second instance, an outbreak of enteric fever in the 3rd Battalion Rifle Brigade, occurred at Jullander in 1891 and points strongly to a similar cause. The first case, that of a woman, was admitted into hospital on March 27th. She had been ill in quarters for a few days previously. On April 14th the next case was admitted—one of the men from barracks—and during the next five weeks eleven more cases occurred in the barracks. No direct infection and no pollution of wells seemed to be possible. The milk was from the regimental dairy and seemed to be unimpeachable. The material used in the filter-tank through which all the drinking water passed was sand and gravel. The sand was dug from the side of the river, at the time practically stagnant, and at the spot where the sand was collected, and for a few hundred yards above and below, the clothes of the regiment were washed. The first case, that of the woman, occurred a few days previous to March 27th. The filter tank was recharged with sand from the place indicated on April 1st or 2nd, the woman's clothes having been washed near the spot a few days before. On April 14th the first case from barracks was admitted. Here, again, the evidence is very strong that the sand used in the filter tanks was the source of the outbreak, and the same thing may easily have occurred in numberless other outbreaks. Experiment has shown that no filters, except perhaps the Pasteur-Chamberland, will prevent the passage of pathogenic germs for more than a very short time. The Macnamara filter cannot, therefore, be relied on to free drinking water from such organisms if they be introduced into the water from the sand filter tanks.

SYPHILIS ACQUIRED IN CHILDBED.

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A SERIES of cases of syphilis acquired in childbed and exhibiting tertiary phenomena rarely comes under observation. The unhappy victims of this misfortune were not in the first instance attended by medical men, but were all delivered by the same midwife, who had been inoculated on the hand with syphilis while nursing a prostitute. All the confinements took place in 1882—six in August, three in September, and one in October. There is no reason to suppose that the midwife ceased to follow her vocation after the latter date, and it is certain that the cases which were traced did not include all that occurred. In none of the cases could any history of inherited or previously acquired syphilis be obtained. Seeing that the events in question took place twelve years ago, and that most of the women suffer from impairment of memory, it is not surprising that their recollection of the dates of the primary and secondary symptoms is very defective.

CASE 1.—This patient was delivered of a child in October, 1882. The first sign of inoculation was a sore situated just within the labia, and not accompanied by any special symptoms. The midwife's explanation of it was that she

had scratched the patient during delivery. Skin eruptions first appeared as "red spots" on the legs, but the body and buttocks were in turn quickly invaded; the period of eruption is not known. The hair then fell off, especially from the crown of the head, and eruptions subsequently appeared on the arms. About two and a half years after the first symptoms she suffered from "fits" during several weeks; they occurred four or five times a week, and generally came on at night; during the attacks she was unconscious, and was said by her friends to have foamed at the mouth and become rigid. There are now numerous scars on the arms and face, and a large scar on the forehead, a little to the right of the middle line, marks the place from which a "tumour" was removed after three years' duration. A yellow, fetid discharge from the left ear commenced twelve months before the operation, and was accompanied by dull pains in the temple and partial deafness; it lasted for twelve months, and the patient thinks it ceased after the operation. Her memory is distinctly impaired, so much so, indeed, that her statements can hardly be relied upon. On the crown of the head there is an ulcer six inches long and five inches in diameter, with irregular edges, a black base, and a very fetid yellow discharge. The movements of the eyeball and the field of vision are now normal, but no ophthalmoscopic examination was made. There is no history of eye disease, but the patient suffered some time ago from diplopia. She now complains a good deal of pains in the back. She has had no more children or miscarriages. This case was not treated in its early stages; at what period treatment was begun cannot be ascertained. The husband was inoculated about a month after his wife, but nothing is known of his symptoms; he died in an asylum five years afterwards.

CASE 2.—This patient was delivered of a child on Sept. 17th, 1882. She had a sore on the vulva, but denies having had any secondary symptoms, and is now apparently quite well. The child was evidently infected from the midwife. The navel became ulcerated and the sore healed slowly under treatment; rashes appeared on the head, body, and buttocks. The child became greatly emaciated, but subsequently gained flesh and appeared to be quite well. The child died when seven years old from accidental burning. The husband developed a sore near the frænum of the prepuce a month after a visit to his wife, and the prepuce sloughed extensively. It was at this period that treatment was begun. He has now a scar in each groin, where abscesses were opened, and he presents the symptoms of locomotor ataxia, with delusions. He does not appear to have had any local paralysis, but has girdle pains round the body, incontinence of urine, the Argyll Robertson pupil, and a typically ataxic gait. His sexual power is now greatly diminished, and his patellar reflexes are lost. No ophthalmoscopic examination was made. Since 1882 the woman has had six children and one miscarriage at the third month. The first and third children are alive, the second died of marasmus, the miscarriage then followed, the fourth child died of paralysis in infancy, and the fifth and sixth children died from marasmus.

CASE 3.—This case is particularly interesting, as its nature was suspected and treatment begun before the stage of incubation was over. The disease ran a mild course. The patient was delivered of a child on Aug. 28th, 1882. Rashes appeared on the back and neck; she lost her hair, and had a sore-throat, followed by "inflammation of the eyes"; her vision is now impaired. The child is alive and well. In July, 1885, she was admitted into the Sheffield Infirmary and operated on for ovarian tumour, twenty pints of fluid being removed. Since then she has had two children, neither of which presented any symptoms of inherited syphilis, and their present condition is very good. The husband states that he never had a sore or secondary symptoms.

CASE 4.—This patient was delivered of a child in August, 1882. The puerperal period was prolonged, "weakness" being assigned as the cause. The secondary rashes were distributed chiefly on the neck and arms, and were attributed by the nurse to "poorness of blood"; the hair of the head and eyebrows also came out. Treatment was begun in January, 1884, seventeen months after inoculation; the medicine caused "fits," which ceased when she took it after food. There appear to have been no eye affections or sore-throat. The woman now enjoys good health, headache and impaired memory being chiefly complained of. One child was born on Dec. 26th, 1888, and is alive and well. In August 1891, there was a miscarriage (period not known) without apparent cause. Three months after the woman's confinement her husband noticed a sore near the frænum of his prepuce, where there is now a scar. Skin eruptions subsequently appeared, chiefly on his neck and thighs; he also had a very bad sore-throat. About two years after the first symptoms his left nasal cartilage began to ulcerate, and part of it is now absent.

CASE 5.—This patient was delivered of a child on Aug. 12th, 1882. The placenta was retained, and was removed by the midwife who passed her hand into the uterus. The patient noticed a sore on the nurse's finger; it was described as a crush caused by the wringing machine. The first symptoms were observed in October, 1882, when small red pimples appeared all over the body. The vulva is described as resembling raw beef. The patient suffered from loss of hair and prolonged sore-throat; her teeth decayed and broke off. There was also partial deafness and tinnitus aurium, both conditions being due to accumulation of cerumen. In December, 1890, the nasal cartilages began to ulcerate. At present the septum and both nasal cartilages are completely destroyed, there are large depressed oval scars all over the face and arms, and the upper lip is swollen and affected with a dry eczema, the whole face presenting a hideous appearance. In March, 1894, she had chronic periostitis of the tibia, which terminated in suppuration. The child, which was the sixth, is alive and well. A full-term child was born on Feb. 22nd, 1885; it was always ailing, had snuffles and a nasal discharge, and when fourteen months old died from marasmus. There have been no miscarriages. The patient's memory is defective, and her statements are not very trustworthy. Neither the duration of treatment nor the date of its commencement can be ascertained. The husband has apparently not contracted the malady from his wife, and there is no history of previously acquired syphilis.

CASE 6.—This patient was delivered of a child on Aug. 6th, 1882. About three weeks later she complained of noises in the ears and partial deafness. This was followed by a rash in the form of small pimples, which were first noticed on the legs, but subsequently affected the whole body, except the face and the palms of the hands. She lost her hair and had several attacks of sore-throat, with "lumps" in the neck. She has had four full-term children since 1882, without any abortion or miscarriage. The first child died from marasmus when fourteen months and a half old. The second had snuffles and a "funny head"; it died from fits and teething when eighteen months old. The third child is now four years old, and the fourth is a year and a half old. Neither of them present any signs of congenital syphilis. Specific treatment was begun two months after confinement. The patient is now fairly well, her only complaint being very marked loss of memory. The husband had a sore on the glans penis, but appears to have had very few secondary symptoms.

CASE 7.—This patient was a niece of the midwife. She is described as being the worst case of the series, and was the only primipara known to be infected. The subjoined notes are taken from her mother's statements. She was delivered of a child in August, 1882, and did not leave her bed for over three months. The vulva became very sore, and presented the appearance of raw beef. A red rash soon afterwards came out over the whole body, and ulcers showed themselves on the face. Remedies were administered from the development of the symptoms until she left home. She was then a "perfect wreck" and "horrible to look upon." Part of the upper lip and both nasal cartilages are now absent, and the face is extensively marked by scars. There have been no more children or miscarriages.

CASE 8.—This patient was delivered of a child on Sept. 12th, 1882. A vaginal examination was made by the midwife a fortnight previously, and again just before labour set in. About a month afterwards a sore appeared within the labia and was poulticed. The external organs of generation soon became raw and very tender. Rashes then appeared on the back, buttocks, and neck, and subsequently on the arms and legs. The patient was so sore that the weight of the bedclothes could not be borne, and for several weeks she could not lie down. She also had a severe and prolonged sore-throat, and "something wrong" about the anus. She lost her hair extensively. Inflammation of the eyes supervened later, but was greatly benefited by her medical attendant, who "passed needles into both eyes"; the sight is now impaired. Her memory is unaffected, and she now enjoys good health. Treatment was begun two months after delivery. The child was apparently healthy,

but contracted "small-pox" when eighteen months old, and was removed to the hospital, where it died. Two years after this labour abortion occurred at the third month without any known cause, and twelve months later a dead fœtus, which was "like a bag," was born at the ninth month. Two children were subsequently born, and now seem to be quite healthy. The husband's history could not be obtained.

CASE 9.—This patient was delivered of a child in August, 1882. No trustworthy information is obtainable. The husband was inoculated and afterwards died in an asylum. The widow married again, and her residence is unknown.

CASE 10.—This patient was delivered of a child in August, 1882. It is certain that she suffered from syphilis, because she was medically examined and gave evidence in Court against the midwife. She has, however, left the district, and cannot be traced.

Remarks.—The tertiary symptoms presented by the female patients did not include any dependent on implication of the brain or spinal cord. The cranial nerves were all examined and found to be normal, except the second and, perhaps, the eighth. The senses of taste and smell were intact; there was no paralysis of the muscles of the eye-ball, and the pupils were equal and normal in every case, except the husband of the patient in Case 2, who had the Argyll Robertson pupil. There was no distinct evidence of gummatous growth in any part of the body. In Cases 1, 5, and 7 the face of the patient is extensively marked by scars resulting from the dermatitis associated with tertiary syphilis. The disease being acquired in childbed the puerperal period was continuous with the primary symptoms, hence none of the cases were treated in hospital till (in most instances) the tertiary symptoms developed. The midwife, who is still alive, knew the nature of the sore on her finger. She was tried at the Leeds Assizes in February, 1883, and was sentenced to twelve months' imprisonment with hard labour.[1]

A CASE OF
RAPIDLY FATAL FACIO-CERVICAL CELLULITIS FOLLOWING TOOTHACHE.

BY JAMES ELIAS, M.R.C.S. ENG., D.P.H. CAMB., &c.

ON Thursday morning, April 12th, 1894, a young man twenty years of age complained of toothache and was unable to go to his work as weigher of bluestone at a copper works. The pain was rather severe, the seat of mischief being the last right molar of the lower jaw. On the following day a slight swelling appeared on the right side of the face, the pain disappearing at the same time. By Saturday, the 14th, the swelling had increased, and in the afternoon I first saw him. On examination I found the face swollen over the right side of the lower jaw, the swelling extending under the chin and slightly down the neck. The inside of the mouth was in a state of general congestion, extending to the back of the throat, and the floor of the mouth was raised, and beneath the tongue the mucous membrane was so œdematous that it partially protruded when the mouth was open, suggesting the appearance of a second (smaller) tongue. The tooth complained of was much decayed, and sharp pain was elicited on percussing it. The temperature was 103·5° F., and the pulse 130. There had been no rigor. The offending tooth was extracted, pus welling out of the cavity. An aperient was prescribed, also an antiseptic mouth-wash. On Sunday morning (the 15th) I again saw him. The swelling in the face and neck had now considerably increased, and I felt convinced that it was a case of rapidly spreading cellulitis. I sent for Mr. Lewis of Neath to see the case with me. He came in the evening. During this short interval the disease had made rapid progress; the face appeared to be double its usual size, the right eye being almost closed. The swelling had increased all over the front of the neck, the œdema extending over the chest to the level of the nipple. The patient was at this time perfectly conscious, but he was unable to lie down, the dyspnœa, however, not being urgent. Rigor and pain were absent. Speech was difficult. The temperature was 103° and the pulse 140. We decided to operate at once. No chloroform was administered. A deep incision was made in the middle line, extending from the symphysis menti down to about the middle of the neck. A probe was now carefully passed deeply amongst the structures below and parallel with the lower jaw on the right side and brought to the surface opposite the angle where the point was cut down upon. A sinus forceps was then passed along the probe, and after the latter had been extracted the forceps were opened to an extent which allowed a medium-size drainage-tube to be inserted. No pus was reached, although we probed carefully for it. The operation, which was borne well by the patient, was performed under strictly antiseptic precautions, the final dressing consisting of boracic lint (in the form of a hot fomentation) covered over with cotton wool. He passed a rather restless night, complaining of mucus at the back of the throat, which was difficult to clear away. There was no delirium, and he took nourishment fairly well. At 7 A.M. on Monday (the fourth morning after the swelling first appeared) the nurse stated that the patient had a "fit," which only lasted a few minutes, and then he died.

That this case should have ended fatally is not to be wondered at, for there were three dangers threatening the patient's life—viz., œdema glottidis, extension of phlebitis (along communicating venous branches) to the brain, and œdema of the lungs; he undoubtedly died from the first of these. The disease was evidently septic in nature and resulted from an ordinary dental abscess, so common at the roots of decaying teeth. It seems surprising that such cases as the one recorded above are not more common, and this must be attributed to the fact that the mouth, like the rest of the alimentary tract, is remarkably free from those pathogenic organisms which are the cause of septic inflammation. Such germs must, however, continually find their way into the mouth, but it is more than probable that they meet with an early death through the action of the secretions unless they find a suitable nidus, due to an abrasion of surface or faulty secretion, which would enable them to flourish. There are numbers of germs, on the other hand, mostly of a parasitic nature, which flourish well in so favourable an incubator as the oral cavity, thus proving that the oral secretions exercise a "protective influence" and exert a bactericidal action over those pathogenic microbes only which are fatal to the human organism. The exact way in which the various secretions of the human body behave towards certain bacteria offers a wide and important field for research to the practical bacteriologist; but the result of such discoveries can only tend to emphasise the importance of keeping the secretions in as healthy a state as possible and of assisting their germicidal action in all surgical operations involving mucous membrane by the constant use of antiseptics.

Neath, Glamorganshire.

[1] The trial is reported in THE LANCET of Feb. 17th, 1883.

A PROLONGED CASE OF HICCOUGH.

BY D. FERGUSON, L.R.C.P., L.R.C.S. EDIN.

THE patient was a man about thirty-three years of age, who had been suffering from hiccough for about twenty-four hours before I first saw him. He was robust and in good general health, but perhaps rather thin; he had no pain, gastric derangement, or flatulence; he did not vomit, and his bowels acted freely. His urine contained no albumen or sugar; his skin and conjunctivæ had a faint yellow tinge. Physical examination revealed no abnormality except slight hepatic enlargement. His own opinion was that there was nothing the matter with him except the hiccough. He was a total abstainer, and had been one for years. In the hope that a sudden and unexpected shock might break the habit of the spasmodic action of the diaphragm, a large piece of ice was, without previous warning, applied to his spine; but no benefit was obtained. Aromatic spirit of ammonia, ether, and pressure on the phrenics were similarly ineffectual. Thirty grains of chloral hydrate were then given, after which he immediately fell into a sleep lasting about two hours, but the hiccough continued throughout as before. Spirit of camphor was then given, followed by chloroform and tincture of opium internally, while hot fomentations with turpentine were applied to the epigastrium. No relief being obtained I injected half a grain of morphia hypodermically. At my next visit I found him decidedly worse. He looked pale, worn out, and dejected. The morphia had not produced sleep. With every spasm his whole

body shook convulsively, even the muscles of his neck quivering, and his face was for the first time slightly cyanosed. Previously he had been taking nourishment freely, but during the last few hours all food was rejected. On the administration of chloroform the hiccough ceased, but the inhalation was discontinued after a quarter of an hour on account of the shallowness of his respirations, and in less than an hour the hiccough was as bad as ever At my next visit I was accompanied by a medical friend. No sooner had we entered the patient's room than the hiccough ceased, nor did it return during the ten minutes or so that we remained there; but it recurred with unabated severity on our departure. Probably the arrival of two medical men agitated the patient and acted on him as a temporary counter-irritant. In accordance with my friend's suggestion I endeavoured to administer tincture of belladonna in combination with aromatic spirit of ammonia; but the mere sight of the medicine produced painful retching. I therefore again injected half a grain of morphia under the skin of the arm and used chloroform inhalation. The morphia caused drowsiness, but no sleep, and although the hiccough ceased while the chloroform was being given, it returned in all its former urgency as soon as the unconsciousness passed off. The patient now seemed to be in a critical state. No nourishment of any sort had been taken for many hours, and the cyanosis was intense, while the hiccough was continuous and violent. I then sought the advice of three friends of hospital experience to whom I described the case. They recommended the successive trial, in the following order, of (1) ice to the phrenics; (2) galvanism to the same region; (3) dry cupping to the loins, on the chance that there might be latent kidney mischief; (4) drachm doses of subnitrate of bismuth; and (5) the prolonged inhalation of chloroform short of producing narcosis. It was impossible for the patient to swallow the bismuth, and the chloroform had been pushed as far as I was disposed to venture. The other recommendations were carried out, but did not produce the slightest apparent benefit. As a final resource I then injected below the skin of the arm six minims of a solution containing one-sixtieth of a grain of atropia and half a grain of morphia. The dose was large certainly, but the same quantity of morphia had been already injected without producing any further effect than a little drowsiness. In five minutes the patient was fast asleep, and the hiccough had entirely ceased. In rather less than two hours I returned, in response to an urgent summons, and found his face cyanosed, his lips particularly blue, and his breathing stertorous, and so slow and laboured that he seemed to be on the point of suffocation. There was, however, no clammy perspiration, and the pulse was comparatively strong, slow, and regular; the pupils were slightly dilated and quite insensible to light. He could not be wakened by slapping the face with wet towels, shouting into the ears, or applying galvanism to the temples, but tickling the soles of the feet made him start so violently that he regained sufficient consciousness to answer a few questions and swallow a little coffee. He was allowed to fall asleep once more, but in about an hour his breathing became so much obstructed that he was again awakened, this time with far less difficulty than before. He talked for a few minutes quite rationally, drank some beef-tea, and fell asleep again. Next morning he complained of nothing except some stiffness of the neck and difficulty in swallowing. There was no return of the hiccough, which had lasted for seventy-two hours without cessation, except during the short periods while he was under chloroform and while he was visited by my medical friend and myself together. His subsequent improvement was rapid, and in a few days he regained his normal condition.

Camden-town.

ANÆSTHESIA BY THE CHLOROFORM AND ETHER MIXTURE.

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THE large number of deaths from chloroform administration that has been noticed lately has caused anæsthetists to look out for a safer anæsthetic. A mixture of 1 volume of chloroform and 2 of ether has been used under the impression that the vapour inhaled would consist of 2 volumes of ether and 1 of chloroform, and in that way the depressing action of the chloroform upon the heart would be neutralised by the stimulating action of the ether. To the chemical mind this would seem most unlikely. Ether boils at 35° C. (95° F.) and chloroform at 62·7° C. (145° F.), and it seems highly probable that the ether would vaporise out of all proportion to the chloroform. In the administering of an anæsthetic there are two factors which determine the assumption of the vaporous condition. The first of these is the property of diffusion, by which a body capable of volatilisation becomes diffused through an adjacent gas or vapour. The said body may be solid or liquid. During a hard frost it is matter of notoriety that snow will gradually disappear by evaporation. Water, in the same way, volatilises at ordinary temperatures. It is known that gases or vapours diffuse with a velocity inversely as the square root of their densities. The density of ether vapour being 37 and that of chloroform being 59·75, and their square roots 6 082 and 7 729 respectively, it follows that ether vapour will diffuse to chloroform vapour as 7·729 to 6·082, or as 100 to 78 8. So far, then, as regards diffusion, the vapour of the ether will preponderate. The second factor is the boiling point. To determine the relative proportion of the mixed vapours as occurring during the administration of the mixture I have made one or two experiments, which I will now detail.[1]

Ether having a specific gravity of 0 72 and chloroform one of 1·497, two volumes of ether and one of chloroform will be very nearly of the same weight. I took equal weights—66 c.c. of chloroform and 137·2 c.c. of ether—putting the chloroform into a long, slender, stoppered vessel graduated in c.c. with a thermometer, whose volume was ascertained, as it had to be immersed in the mixed liquids. I then carefully poured in the ether, which lay above the chloroform without mixing with it. The volume then (subtracting the space occupied by the thermometer) at 18° C. was 203·2 c.c. On mixing by turning upside down a few times, the thermometer rose to 28° C., and the volume of the liquid increased. On cooling down to 18° the volume contracted down to the original volume of 203·2 c.c. I took a flask having a capacity of 1200 c.c., intending by the space thus obtained to give an opportunity for the same diffusion to take place as occurs during the administration of anæsthetics. Into this flask, which had a side tube in the neck for distillation, I introduced the mixture, closed the flask with a stopper carrying a thermometer reaching down into the centre of the flask, and connected the side tube with a glass condensing apparatus. I then placed a small water bath under the flask, and applied gentle heat. The flask was raised a little distance from the water bath, and the temperature was kept between the limits of 36·6° and 40° C. (98° and 104° F.). The heat was so gentle that the distillate came over slowly, the first 50 c.c. coming over in seventy-five minutes, the next 25 c.c. in sixty minutes, and the last 10 c.c. in twenty minutes. When these 85 c.c. had come over distillation ceased, the thermometer reading being 40° C. The specific gravity of the distillate was 0·7344. This denotes a mixture by weight of 1·87 chloroform and 98·13 ether, by volume 1·87 chloroform and 196·26 ether; in other words, 100 volumes of ether to 0·953 chloroform—i.e., less than 1 per cent That chloroform was present in the distillate, and that its higher density was not due, or not due solely, to the alcohol which chloroform is allowed to contain, was shown by two tests: (1) formation of benzo-isonitrite by warming with alcoholic soda and phenylamine; and (2) reduction of Fehling's solution. The residue in the flask was next examined. It amounted to 103 c.c. The specific gravity was 1·187, equivalent to a mixture by weight of 60 chloroform and 40 ether, by volume 60 chloroform and 80 ether, or 100 volumes of ether to 75 of chloroform. Thus, administering this mixture, the patient would be inhaling 100 volumes of ether to 0·953 of chloroform at the first; whilst if the whole of the contents were used up the patient at the last would be inhaling 100 volumes of ether to 75 of chloroform.

[1] Since writing the above I have examined the residues left in Clover's apparatus in three administrations of the mixed anæsthetics. The specific gravities were 1·144, 1·095, and 1·028, giving the respective quantities of ether to chloroform by weight as 45·3 to 54·7, as 51·7 to 49·3, and as 59·5 to 40·5; or by volume as 90·6 to 54·7, as 103·4 to 49·34 and as 119 to 40; that is, to 100 volumes of ether, 50, 47·6, and 3, volumes of chloroform respectively, in the state of vapour. The residue first examined, as stated above, contained 100 volumes of ether to 75 of chloroform. These cases show conclusively that in administering the mixed anæsthetics we are using a vapour of varying and uncertain composition.

Consideration of these figures must show us the inadvisability of using the mixture of ether and chloroform. To be giving an inhalation which may vary between 100 to 0·9 and 100 to 75 is clearly a most dangerous proceeding. It appears to me that for ordinary cases ether is by far the safer anæsthetic of the two; that when this is contra-indicated, pure, unmixed chloroform should be used, every precaution being taken as in the case of all anæsthetics, to give it carefully; but that to use the two mixed is unscientific and unsafe. In these remarks I have had in view administration by Clover's inhaler. In giving the mixture by dropping it on to an open flannel mask the vapours would doubtless be more evenly distributed.

Derby-road, Nottingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF TRAUMATIC INTRA-PERITONEAL HÆMORRHAGE.

BY E. H. WAGSTAFF, M.R.C.S. ENG.

IN connexion with Mr. Battle's case of Intra-peritoneal Hæmorrhage in THE LANCET of Jan. 26th a sketch of the following case, which occurred recently in my practice, might be of interest.

A man met with an accident under the following circumstances. On Dec. 19th, 1893, whilst driving in an ordinary spring cart his horse stumbled and fell, whereupon he jumped from the cart and fell on the road on his left side. Assistance was immediately at hand, and he was conveyed—in a sitting position in another cart—to his home, a distance of about two miles and a half. I saw him immediately on his arrival and found that he had sustained a fracture at the junction of the middle and upper thirds of the left femur, which was promptly put into position. A careful examination was made, but no further injury could be made out. It was remarked at the time that there was an entire absence of shock. The patient was warm, and the pulse, temperature, and respiration were normal an hour after being put to bed; indeed, he was extraordinarily cheerful considering the circumstances. The friend's report that, though a generally healthy man, he suffered from flatulent dyspepsia and want of appetite, evidently the result of alcoholism, his tendencies in that direction being well known. All went well until Dec. 21st, when slight vomiting set in with flatulence, the former relieving the latter. No abdominal pain was complained of. There was no dulness or undue distension of the abdomen. As the bowels had not been open since the accident an aperient was given, but without effect. The vomiting recurred at intervals until the morning of the 22nd, when it ceased, but the bowels continued obstinate. The vomiting recommenced in the early morning of the 23rd, and continued at intervals throughout the day. During the whole of this time the pulse varied between 72 and 85, and the temperature between 97·8° (after vomiting) and 99·4° F.; the tongue was moist and fairly clean, and the respiration was normal. At 8.45 P.M. on the 23rd the patient complained of faintness, and, on my visiting him at 9.30, to my surprise I found him cold, pulseless, and collapsed, in fact *in extremis*, from which condition he never rallied, but died at 10.45. The necropsy (twelve hours after death) revealed nothing of moment on first opening the abdomen. There was no peritonitis. The stomach bowels, spleen, liver, and kidneys were healthy, the latter wonderfully so, considering the alcoholic habit. A small length of bowel above the cæcum was collapsed, but there was no undue fæcal accumulation. On tracing the bowel upwards to the duodenum with a view to its removal a large retro-peritoneal hæmorrhage was discovered in connexion with the pancreas. It was impossible to define its precise origin, as the whole organ was so bruised and lacerated as to break up on handling. Here was evidently the cause of death, an accident in itself perhaps worthy of record; but I venture to suggest that the chief interest lies in the absence of any of the ordinary symptoms attending so extensive a lesion of so important an organ. The bruising and laceration of course occurred at the time of the accident, whilst the hæmorrhage probably occurred a few hours before death as the result of inflammatory changes or the effort of vomiting.

Leighton Buzzard.

INVERSION OF UTERUS; DEATH.

BY THEODORE MAXWELL, M.D. CAMB., F.R.C.S. EDIN.

THOUGH I can hardly think that cases of complete inversion of the uterus are as rare as one in 150,000, as has been stated, they are quite rare enough and fatal enough to justify my recording the following one. I find a similar case mentioned by Dr. J. L. Kerr[1] of Crawshawbooth, Manchester, where, however, the woman died ten minutes after replacement from shock and hæmorrhage, and where there was a suspicion that the midwife had pulled at the cord, which I feel sure she did not do in my case. I was called at 6 A.M. on Jan. 26th last by a midwife to a young woman in her first confinement, and found the child, which was somewhat premature, born, the woman very pale and low, and the afterbirth, which was to a large extent invested by the membranes, hanging out of the vulva. On this mass gentle traction had no effect. Pinching it near the vulva caused pain, and there was no tumour to be felt above the pubes. I then passed my finger cautiously into the vagina, and found, as I suspected, that there was no os, but that the mass was continuous with the fornix and consisted of the inverted uterus, with the placenta partly attached. I found no difficulty in peeling off the latter, and very little in replacing the uterus by the pressure of three fingers. It was, however, so soft and flabby that it could not be felt through the abdominal walls. I syringed out the vagina with a hot solution of creolin and administered a little ergotin and some egg and spirit, but death occurred in about an hour. There was no hæmorrhage at any time. The midwife said that the labour was a breech case and extremely easy, there being very little pain. The child was born about 5 o'clock, and as the afterbirth did not come and there was no pain or hæmorrhage she proceeded to wash the infant. While doing so the placental mass appeared. She had once seen a case of inversion, and had a suspicion of what had occurred and therefore sent for me at once.

Woolwich-common, Kent.

CASE OF ACUTE ALCOHOL POISONING.

BY NORMAN KERR, M.D. GLASG., F.L.S.

A WOMAN aged forty-one years, wife of a labourer, a periodic inebriate, on Dec. 19th, 1894, in London, drank one and a half pints of whisky 22 over proof (47 stronger than whisky as usually retailed). As this is nearly double the ordinary retail spirituous strength, she must have swallowed more than two and three-quarter pints of the latter. The spirit was taken right off. In a few minutes she was found lying on her back insensible, and never recovered consciousness till she died five and a quarter hours later. The post-mortem appearances thirty hours after death were venous engorgement of the head, with subarachnoid effusion, in addition to old-standing congestion, with white, milk-like film on the surface of the pia mater. The walls of the heart were fatty, pale, and thickened. The cavities contained about half an ounce of fluid, tarry-like blood in the right ventricle. There was slight pleural effusion in the lungs, and patches of extravasation of blood in both. The walls of the stomach, which were thinned in parts, with patches of mucous membrane semi-detached, presented brownish-black ridges, with a red, fiery, tree like aspect, on a translucent, pale, interspersed with red ground, corrugated inflammatory appearances extending into the duodenum. The stomach contained eight ounces of grumous fluid with a faint odour of alcohol. The spleen was engorged. The capsule of the kidneys was semi-adherent. While the patient was alive the face was pale, the eyes suffused and dull, the skin cold and clammy, with cold perspiration, the pulse thin and compressible, almost imperceptible, and the breathing stertorous. Throughout the pupils were dilated. The temperature fell 7° F. below normal.

Regent's-park, London, N.W.

[1] THE LANCET, Oct. 28th, 1882.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CANCER OF RECTUM; INGUINAL COLOTOMY; PREGNANCY; CÆSAREAN SECTION; RECOVERY.

(Under the care of Dr. WILLIAM DUNCAN.)

THERE are one or two points in this case which render it unusually interesting. The patient was young for the occurrence of such a disease as cancer of the rectum, and it is of course very rare for that disease to be complicated by pregnancy. The great difficulty which presented itself with regard to the operation of Cæsarean section was the vicinity of the artificial anus to the region of the new incision. It was imperative to render the parts aseptic before operation, in order to prevent septic infection during its progress and until the wound was soundly healed; this was effected with a most satisfactory result.

A woman aged twenty-six was admitted into the cancer ward of the Middlesex Hospital on June 28th, 1894, under the care of Mr. Hulke. Eighteen months previously she began to suffer pain on defecation, and constipation. Twelve months ago she was told she had cancer of the rectum, and for this a left inguinal colotomy had been performed. She had one child two years old. On her admission to hospital the finger encountered about one inch and a half within the anus a large firm mass about the size of an orange in the anterior wall. The mucous membrane appeared to be intact over the lower accessible portion of the tumour, but the examining finger was blood-stained. Per vaginam the mass could be felt projecting prominently along the posterior vaginal wall, but there was no ulceration of the vaginal surface. There was a blood-stained mucoid discharge from the rectum. The patient was in considerable discomfort from the irritation and straining, and injections of morphia had to be repeatedly given. In August enlargement of the abdomen and breasts led to a diagnosis of pregnancy of between five and six months' duration, but the patient could not remember when the catamenia last appeared. Owing to the extensive blocking of the pelvic canal by the malignant growth it was decided to let the patient go on to full term and then have Cæsarean section performed, for which operation the patient was transferred by Mr. Hulke to Dr. Duncan's care. The operation took place on Nov. 22nd. There were no signs of labour. The patient having been anæsthetised, the abdomen was carefully washed, and the inguinal opening into the bowel closed by a pad of lint, which was firmly supported by an assistant's hand during the whole operation. A median incision about six inches long was made and the uterus exposed. Then a large flattened-out metal Hodge's pessary was pressed on the anterior uterine wall with a view to control hæmorrhage, and the uterus was opened by a vertical incision within the pessary. It was found that the bleeding was more effectually controlled by digital compression, so the pessary was discarded. The incision cut into part of the placenta (which was attached on the anterior wall), so the wall was rapidly cut through and the opening extended chiefly downwards. The uterus was brought up to the abdominal wall by an assistant, who hooked the forefinger of each hand into either end of the incision. The membranes were ruptured and the fœtus (which lay in the first vertex position) was delivered head first. The child was a female and immediately cried lustily. The placenta and membranes were now rapidly and completely removed from the uterus, which was then brought outside the abdominal wall. The bleeding, which was not much at any time, came from vessels in the incised uterine wall. A hot sponge was put into the uterine cavity and the uterus itself surrounded by a towel wrung out of hot perchloride of mercury solution. Uterine contraction set in very soon, aided by manipulation with the fingers and by an injection of three grains of ergotin into the gluteus muscle. A series of stout silk sutures was now passed through the uterine muscle, down to, but not through, the endometrium. Next, a large pair of cyst forceps was passed down into the vagina to make sure that the cervical canal was freely patent for the lochial discharge. The cavity of the uterus was thoroughly swabbed out with a 1 in 2000 perchloride of mercury solution, and the sutures were tied. The peritoneal edges of the uterine incision were then brought accurately together by a series of fine silk Sänger sutures between the deep ones, and the uterus was returned to the abdominal cavity. No fluid having escaped into the peritoneal cavity during the operation, the abdominal incision was closed with silk sutures in the ordinary way. On account of the nearness of the inguinal colotomy aperture the wound was covered over with a collodion scab, and then dressed with salicylic wool and strapping. The operation lasted about one hour. On the 23rd the patient passed a restless night. Injections of morphia (half a grain) were given hypodermically every four hours, and three grains of ergotin at midnight. There was no sickness. Nutrient suppositories were ordered to be given through the colotomy wound every four hours. The pulse was 120. On the 24th she passed a better night. The pulse was steadier. An ounce of milk and the same of water were given every hour. The morphia injections were continued (two-thirds of a grain every four hours). There was very slight vaginal discharge. From this time onwards the patient progressed satisfactorily; she was continually crying out for the morphia injections, but this was due to morphia craving, for she did not appear to suffer more pain than was accounted for by the condition of the rectum. Nourishment was taken well. On the fifth day, as the breasts were causing discomfort, an aperient was given and the bowels acted well. On the sixth day fish was given and on the tenth the stitches were removed, the abdominal incision being perfectly healed. The temperature throughout never rose above 100° F. The child was thought to be little more than eight months. It weighed 5 lb. at birth, but steadily gained weight and strength whilst under observation. The patient was retransferred to the cancer wards under Mr. Hulke's care.

Remarks by Dr. DUNCAN.—It must be very rare to meet with a case such as that just described, in which a woman on whom an inguinal colotomy had been performed months previously for extensive malignant disease in the pelvis became pregnant and subsequently required Cæsarean section. When the pregnancy was first discovered after the patient had been in the hospital nearly two months it was difficult to say how far gestation had advanced, because, in the first place, the patient could remember very little about menstruation, and, secondly, the uterus was pushed up by the growth in the pelvis. It was quite evident, however, as there was so much obstruction that the proper course in the mother's interest was to let the pregnancy go on to term; but even in cases where there is much less narrowing of the parturient canal, whether from disease of the cervix uteri or of the surrounding parts, I am strongly of opinion that, provided the disease be of a malignant nature, the life of the child should receive much more consideration than if the disease were not cancerous, and an attempt ought always to be made to save it by Cæsarean section. In the present instance there was no difficulty in deciding against the induction of abortion and for Cæsarean section, and I am much indebted to the courtesy of my colleague, Mr. Hulke, for so kindly handing the case over to me for operation. With regard to the operation itself, when the abdomen was opened I did not (as has hitherto been my custom) bring the uterus outside the abdomen before incising it in order to prevent the escape of any liquor amnii or blood into the peritoneal cavity. With a good assistant it is not necessary to do this, and thus a much longer incision in the abdominal wall is avoided. Nor was any attempt made to control bleeding by constricting the cervix uteri with an elastic band; the use of an elastic band is bad, for though it stops hæmorrhage it has the grave defect of tending to cause uterine paralysis, and thus, when the constricting band is removed, violent post-partum hæmorrhage may set in. I have seen one of the most skilful operators obliged (owing to his inability to stop the hæmorrhage) to convert the Cæsarean section into a Porro operation by removing the uterus. In order to prevent bleeding during the incision of the uterus I adopted the plan recommended by Dr. Murdoch Cameron of Glasgow (and which answered perfectly in my last Cæsarean section) of placing a flattened-out

large metal Hodge's pessary on the anterior uterine wall and making a vertical incision inside the pessary whilst an assistant pressed it firmly against the uterine wall. In this case it had no effect, but that was due most likely to the fact that the placenta was situated in front. This makes my third case of Cæsarean section in which the placenta was unfortunately so placed. Now some observers say they can diagnose the placenta when in front even before the abdomen is opened. All I can say is that I am unable to do so with any degree of certainty when the uterus is exposed. In one of my former cases the anterior wall of the uterus appeared to be unusually pale, and yet it held the placenta which I cut into. If the placenta is incised the operator requires to cut through it expeditiously, taking care to let his incision extend lower down the anterior uterine wall than usual. After all, the loss of blood is not much—certainly not much greater than at an ordinary confinement. It is necessary to pass something through the cervical canal in order to ensure its patency in those cases where labour has not been started some hours previously to operating. As a rule it is better to introduce a bougie into the uterine cavity for eight or nine inches some six or eight hours previously, as the uterus is then more certain to contract after being suddenly emptied of its contents, besides which there is less danger of the lochial discharge being pent up. In the present instance, owing to the blocking of the pelvis by growth, a bougie was not inserted. The most important part of the operation is the suture of the uterine wall, and too much care cannot be taken both to avoid piercing the endometrium and to accurately coapt the uterine walls and peritoneal coats together. Silk is the material I always use and prefer. Lastly, as the patient (if recovery took place) was to return to the cancer ward, no steps (such as removal of a piece of each Fallopian tube) were taken to prevent the possibility of future impregnation. The successful result of this more than usually difficult Cæsarean section is in great measure due to the unremitting care bestowed upon it by my excellent house physician, Dr. G. Stanley Dodgson.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE

CASES OF OPERATION FOR GALL-STONES THROUGH A TRANSVERSE INCISION.

(Under the care of Dr. G. H. HUME.)

THE following report of these cases is from notes by Dr. A. M. Martin, surgical registrar.

These cases are published as illustrations of a method of operating for gall-stones which offers certain definite advantages. The first is the greater facility of access afforded by the transverse incision. Much of the difficulty of the usual operation by vertical incision arises from an insufficient exposure and inadequate access to the parts. When the peritoneal cavity is opened transversely the neighbourhood of the gall-bladder and bile-ducts is much more accessible both to the eye and the hand, and there can be no doubt that a transverse wound of the abdominal wall in this region carefully sutured heals almost as readily and with as little after-weakening as a vertical one. A further advantage of the transverse incision is efficiency of drainage. The thoroughness with which the space below the liver can be drained to a dependent opening in the right hypochondrium has been demonstrated in an able paper by Mr. Rutherford Morison;[1] and confidence in drainage with protective packing justifies the adoption of direct incision of the ducts in cases of impacted stone, in the place of more complicated and tedious methods. Where the incised duct can be sutured it is advisable to do so. After opening the gall-bladder also, the opening should be closed with sutures; but, whether sutured or not, an opened gall bladder is better left to drainage than stitched to the parietal peritoneum. It may fairly be claimed that the fatal event in the fourth case was not in any way due to the method of operating. The field of operation was found post mortem to be secluded and to be free from any appearance of sepsis. Death seemed to be attributable to cholæmia, or, at any rate, to be the result of the long-continued jaundice, whose depressing influence was in this case aggravated by mental trouble.

CASE 1.—A man aged sixty-three years was admitted into the Royal Infirmary under the care of Dr. D. Drummond in February, 1894. He gave a history of illness beginning eight years ago with a severe attack of pain in the right side followed by jaundice. In June, 1893, he had another severe attack, and between these two dates there were many slight attacks. Some of them were ushered in by shivering. Vomiting brought relief to the pain, and each attack was followed by return or increase of jaundice. On admission he was found to be emaciated and jaundiced, and suffering from constipation and dyspeptic symptoms. On March 13th he was transferred to Dr. Hume for operation. The abdomen was opened by a transverse incision from a point outside the sheath of the right rectus to near the tip of the eleventh rib. Before the peritoneum was divided all bleeding points were carefully ligatured. The gall-bladder was found to be contracted, with thickened walls and adherent omentum. It contained no stones. After separation of some of the adhesions a large stone was found to be blocking the common duct close to the duodenum. The surrounding area having been packed with sponges, the lesser omentum was pulled forward as far as possible, and an incision made into the duct over the stone. This proved to be of very soft consistence, and it was removed piecemeal with a director and scoop. Bile flowed after its removal. A large rubber tube was placed with one end against the opening in the duct, and the other projecting from the outer extremity of the wound. Enough iodoform gauze was packed around the tube to completely isolate the area it traversed, and the operation was completed by suturing the wound in layers. The after progress of the case was as follows. There was at first a copious discharge of bile through the tube, and the wound required dressing—sometimes twice daily. The gauze was removed on the third day and the tube not till the fourth week. The discharge of bile gradually lessened and the motions had become coloured. On May 4th he left the hospital with the wound healed and the jaundice and pain entirely gone.

CASE 2.—A woman aged thirty-eight years was admitted on April 2nd, 1894. She was deeply jaundiced and stated that she had been so for eighteen months. Her first attack of pain occurred a year before her admission, when the jaundice had already existed for six months. Once the attacks of pain began they recurred at varying intervals. After each attack there were deepening of the jaundice and tenderness over the right side for a few days. It was found that she had evening pyrexia (101° F.), and hepatic dulness was increased. The gall-bladder could not be felt. She was operated upon on April 9th. The abdomen was opened by transverse incision, and the liver, enlarged and very dark in colour, presented. The gall-bladder was adherent to the great omentum. When the adhesions were separated the common duct was found to be enormously distended. The area having been guarded with sponges, the distended duct was aspirated and nine ounces of clear mucoid fluid were drawn off. As the sac was collapsing it was pulled forward and opened with scissors. Two stones were found to be blocking the opening into the duodenum, and these were removed with finger and scoop. One was an inch long and truncated at the ends; the other was smaller and faceted. A third stone was removed from the right hepatic duct at its opening into the common duct. The gall-bladder was then opened, and from it a large number of small white calculi were removed. The opening into the gall-bladder was sutured as accurately as the friability of its walls permitted. The opening into the sacculated common duct was also sutured. A large drainage-tube and gauze tampon were placed in the same manner as in the previous case. The patient made a quick recovery. The gauze was removed on the second and the tube on the thirteenth day. There was a high temperature for a few evenings. The jaundice disappeared, and the patient went out recovered on May 10th.

CASE 3.—A man aged fifty years was admitted on May 31st, 1894, under the care of Dr. Drummond and transferred to Dr. Hume for operation. He was jaundiced and had attacks of pain in the right hypochondrium, accompanied by vomiting and sweating. The operation, which took place on May 7th, consisted in opening the peritoneal cavity by transverse incision, separating adhesions between the omentum and gall-bladder, opening the latter and removing therefrom a number of small faceted calculi, as well as two large stones—one from the bladder, the other from the cystic duct. The opening in the gall-bladder was not sutured. The isolating sponges having been removed, a large drainage tube was placed—one end in contact with the gall-bladder, the other projecting from the outward extremity

[1] Brit. Med. Jour., Nov. 3rd, 1894.

of the parietal incision, and it was packed round with strips of iodoform gauze. The after-progress was uninterrupted, and the patient left the hospital recovered on June 21st.

CASE 4.—The patient was a married woman aged fifty years, who had been jaundiced for three years. The jaundice was preceded by an attack of very severe pain in the right side, accompanied by profuse perspiration and vomiting. There had been many attacks of pain, and during the three years she had every few weeks a febrile attack with vomiting and sweating, followed by deepening of the jaundice. Owing to a reverse of circumstances she had been worn down by much mental trouble as well as hard physical work. She was seen to be in an unfavourable state for operation, but she was becoming quite disabled and was anxious for relief. The operation (on June 4th) was carried out on the same plan as in the preceding cases. The abdomen was opened by transverse incision. A large stone was found in the common duct, close to the duodenum. The duct was hooked forward with the fingers, and an incision was made over the stone, which was delivered with a scoop. It was an inch in length and flattened at the ends. The duct was not sutured, but drainage was provided for by a rubber tube and gauze packing. After the operation the patient never became quite conscious. She was restless and drowsy, vomiting now and again. She continued in this condition, with rapid pulse, slight rise of temperature (100·8° F.), and increasing drowsiness, till she died in the early morning of June 7th. The post-mortem examination of the abdomen showed that the area of the operation was completely shut off and that there was no peritonitis. The patient had apparently died from cholæmia.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Causation of Ægophony.

AN ordinary meeting of this society was held on Feb. 12th, the President, Mr. HUTCHINSON, being in the chair.

Dr. FREDERICK TAYLOR read a paper on the Causation of Ægophony. He said that:—1. Ægophony was no more than, or different from, ordinary musical *discord* or *dissonance*. 2. This discord was the result of *beats* occurring between the higher harmonics of the note uttered by the patient. 3. The beats constituting the discord were audible because the higher harmonics were reinforced while the fundamental tone and lower harmonics were suppressed. 4. Both the reinforcement and the suppression were due to modifications of the bronchial tubes, which caused them to resonate the higher harmonics and not the lower. It was pointed out that *discord* as a factor in ægophony had not been sufficiently recognised by writers, and that the late Dr. Stone, in his Croonian Lectures, confined his attention almost entirely to the high pitch of the morbid sound. Discord was favoured by (1) the pre-existence of high harmonics in considerable force, such as is known to be the case with syllables containing the vowels *e* and *i*; (2) by reinforcements of the higher harmonics; and (3) by suppression of the lower harmonics and fundamental tone. The last two conditions could be effected by modifications of the resonating qualities of the bronchial tubes, such that they would resonate very high tones and would not resonate the lower normal tone. It was argued that such an alteration in the resonating qualities of the tubes was a sufficient explanation of ægophony without the necessity of conceiving that liquid in the pleural cavity cut off the lower tones. It was shown that there was no ground for believing that liquid cut off lower notes and transmitted higher, or that higher notes were in general more penetrating than lower notes. It was shown, further, that the familiar sounds, such as nasal voice, the Punch and Judy voice, and others with which ægophony were compared, did not depend on transmission of sound being affected by a layer of fluid, but on differences in the resonating spaces. Some remarks were then made on the position in which ægophony was usually heard, with observations of twenty-one cases, from which it was shown that ægophony was not always limited to the upper part of the area of dulness. The occurrence of ægophony in the absence of pleural liquid was then discussed, and a case was quoted showing its appearance in pneumonia with plugs or casts of fibrin in the bronchial tubes. The conclusion was that, though ægophony was most frequent in the presence of liquid because the liquid compressed the lung, it might be produced by alterations in the bronchial tubes independently of liquid.—Dr. THEODORE WILLIAMS said he regretted that the early use of the aspirating needle nowadays had abolished the necessity of the study of certain physical signs. As regarded the nature of ægophony, he supported Dr. Taylor's views, and thought it was more common in women and children than in men. One objection to those views appeared to him to be that in intra-thoracic tumour the bronchi were usually much compressed, but in no single case of this nature had he ever found ægophony. Why did it last such a short time? The late Dr. C. J. B. Williams had stated that ægophony would disappear whenever the fluid between the lung and the chest had accumulated to the depth of more than an inch.—Dr. MAGUIRE agreed that ægophony was a sign of no practical value in medicine, and that it was merely a discordant modification of the voice due to altered conditions of resonance in the bronchial tubes. But there was a wide difference between resonance and consonance, which two seemed to be confused in the paper. Ordinary musical discord or dissonance was quite different from ægophony. The harmonics of any given note uttered by a patient would never produce a discord. The nearest to it was the chord of the seventh; this was the product of the harmonics of any fundamental note, but in no sense of the word was it a discord, except in so far as it produced in the musical mind a feeling of expectancy which could only be relieved by the sequence of its "resolving chord," as it was called. Consonance could only occur with regard to one particular tone, and it was utterly impossible that a series of bronchial tubes could correspond with a consonating chamber. There was no space for such a chamber for one note, much less for all the notes of the human voice. In excessive bronchophony one got a kind of ægophony, but that was an instance of resonance and not of consonance. The disagreeable noise of the phonograph was a form of ægophony; it was certainly not a question of harmonics, but only of confusion of tones of different timbre but of the same pitch. The real explanation of ægophony was therefore a confusion of sounds of the same character and pitch—a confused echo, tones of different quality, but not of different elevation, jarring with one another. If this were so it was impossible to conceive that Dr. Taylor's fourth proposition could be correct.—Dr. SANSOM held that ægophony had still some diagnostic importance. He quoted the view endorsed by Barth and Roger that in cases of effusion, at the level at which ægophony was heard, there was a thin layer of flattened lung separated from the chest wall, which was set in vibration by the voice like the tongue of a Jew's harp. Ægophony was not likely to be due to one cause in all instances.—Dr. SCHORSTEIN said that musically it was impossible to produce discord from any one note or its harmonics. In a recent case in which ægophony was audible when the patient said "99" he found it to be still present when the patient sang a pure "Ah," which proved, therefore, that it could not be a discord. Dr. Taylor appeared not to have discriminated between what was musically known as discord and the popular idea of a discord—i.e., an unpleasant noise. The bleating of a sheep, the note of a bassoon, and that of a bagpipe, though unpleasant to many, were not musical discords. He remarked on the rarity of ægophony in cases of recognised pleurisy.—Dr. SQUIRE stated that if, after bathing, a little water were left in the external meatus the sounds which reached the ear were altered, being raised in pitch and somewhat resembling ægophony. He had recently seen a case of old-standing effusion in which ægophony was plainly heard. If the explanation in the paper were correct ægophony should be more frequently heard in pneumonia.—Dr. TAYLOR, in reply, said he had not been able from his reading to make out such a distinction as had been drawn between discord in its popular and in its musical senses. He relied rather on the statement made by an authority in acoustics that a compound tone might be harsh or dissonant in itself if it contained high harmonics. If the explanation quoted by Dr. Sansom held good ægophony ought to be heard only along the upper line of dulness, but this was by no means the case. As intra-thoracic tumours grew from the root of the lung they early compressed the bronchi and cut off any possibility of resonance from the larynx; but he had heard a sound like ægophony in a case

of malignant disease of the lung. His cases were all males with one exception, and none of them were children. Ægophony could not be a pathognomonic sign of pleural effusion, and in pleuro-pneumonia it was perhaps more common than was generally believed.

The PRESIDENT notified that in future special evenings would be set apart for discussions. These would be introduced by a short and lucid account of the subject, which would then be left entirely to the meeting. At the next meeting of the society a discussion will take place upon the Affections of the Nervous System during the Early Period of Syphilis.

MEDICAL SOCIETY OF LONDON.

Unusual Maldevelopment of Skull unassociated with Cerebral Symptoms.—High Excision of Rectum.—Cork in Adult Male Bladder.—Right Hemiplegia with Epilepsy treated by Trephining. — Pyloroplasty. — Enteroplasty. — Gastro-enterostomy. — Pseudo-hypertrophic Paralysis, with Preservation of Knee-jerks.

A CLINICAL EVENING of the above society took place on Feb. 11th, the President, Sir WILLIAM DALBY, being in the chair.

Dr. GUTHRIE showed a boy aged four years who was the subject of typical scaphocephalus. The boat shape was present at birth; the circumference of the head was 21 in., the extreme length 8 in., and the width at the biparietal eminences 4⅝ in. There was synostosis of the sagittal suture, and the frontal bone was pushed forward as a whole, the keel-shaped ridge at the top being very well marked. There had been no convulsions and no rickets, and the intelligence was good. The child was the youngest of seven, three of whom had died of diphtheria, but none of the others had shown deformity of the skull. Professor Turner, in discussing the etiology of these cases, said that the synostosis was probably due to causes operating in intra-uterine life. — The PRESIDENT said that he knew of a very exaggerated example of this deformity of the skull occurring in a public man of great intellectual attainments.

Mr. SWINFORD EDWARDS showed a man aged sixty-one years who was admitted into St. Mark's Hospital in February, 1891, with signs of cancer of the rectum. It extended four inches up the bowel, but he could not get his finger above it. After inguinal colotomy, a coccygeal extirpation of the rectum was performed by the method of Kraske. The patient at the present time is in good health and has had no further rectal trouble.—He also said that he had operated on a second case, that of a female aged fifty years, who entered the West London Hospital in August, 1894, for rectal carcinoma. The growth measured two inches in length and extended to within three inches of the anus below; there were no extra-rectal adhesions. The patient being placed on her left side, he made an incision from the mid-sacrum to the anus, removed the coccyx, divided the left sacro-sciatic ligaments and dissected away a portion of the sacrum with the saw and cutting forceps. The growth was removed and the rectum united end to end, but this union did not hold. The patient had since much improved in health and strength.—Mr. CLUTTON held that carcinomata high up in the rectum could be removed without resort to Kraske's method. He made a free incision posteriorly beside the coccyx and introduced his hand. He then opened the peritoneum freely, pulled the sigmoid flexure down, and attached it to the anal margin; he next dissected out the whole of the rectum and finally fixed the sigmoid down to the anus with many sutures. As a preliminary step it was best to perform an inguinal colotomy and introduce a plug into the lower portion of the colon to keep the wound clean. Kraske's operation would rarely or ever be required in women, but it might materially assist the operation in some cases in men. Cancer of the rectum varied much in malignancy in different subjects.

Mr. BUCKSTON BROWNE showed a man aged fifty-four years from whom he had removed a Cork from the Bladder in January, 1893. The patient was a gentleman of a sensitive habit of mind who was afflicted with occasional incontinence of urine. He was staying with a friend in the country, and in order to prevent the chance of wetting the bed he inserted into the end of his penis a small cork from an eau de Cologne bottle. On getting up next day he failed to find the cork either in his penis or in the bed. In March, 1893, an examination of the bladder was undertaken with a negative result. In August, there being much pain after micturition and other signs of bladder irritation, he was sounded, and a foreign body was felt. Next day it was broken up with a fenestrated lithotrite and the greater portion of it removed. A week later the remaining portion came away in the eye of an evacuating catheter. The patient had remained well to the present time. The operation was done with an almost empty bladder, and he preferred this condition of the viscus for all cases of lithotrity.

Dr. OUTTERSON WOOD and Mr. COTTERELL showed two patients who had been afflicted with Right Hemiplegia and Epilepsy, who had been treated by trephining. The first patient, a female aged three years, was paralysed on the right side. When one year old she had a fall and afterwards had an epileptic seizure; several more fits followed, always beginning in the thumb and fingers. She had been trephined over the centre of the hand, and there had been no return of fits since the operation. The second patient, a girl aged twelve years, had been paralysed since birth. There had been a difficult instrumental labour. There was no paralysis in other children of the same family. There was rigidity of the right hand, arm, and leg, with wasting of the leg and eversion of the foot. Epileptiform seizures commenced last April, preceded by a well-marked aura of numbness and tickling of the thumb. She was trephined over the hand centre last September, and since then there had been no fits; the hand and arm were less rigid, and she walked better.—Mr. COTTERELL said that in the first case he found a cyst connected with the arachnoid, which was probably an old hæmorrhagic extravasation. In the second case the dura mater was found to be thickened, but the arachnoid and brain were healthy. He did not interfere with the exposed cerebral cortex.

Mr. HERBERT ALLINGHAM showed a patient upon whom he had performed Pyloroplasty. The man, who was thirty-four years of age, had had an acute gastric trouble four years ago, and since then signs of pyloric stricture had developed. He opened the abdomen in the middle line and explored the pylorus. Much cicatricial tissue was found round it, and so he divided the stricture longitudinally, then pulled the wound open, and stitched it across transversely.

Mr. H. ALLINGHAM also showed a woman forty-nine years of age who some years ago had complained of Dyspeptic Symptoms, and had afterwards suffered from intestinal obstruction with pain of a colicky nature. When admitted into the Great Northern Central Hospital obstruction had lasted for ten days. He opened the abdomen in the left inguinal region and found the large intestine distended with flatus. He opened the large intestine in the inguinal region. Next day, as the obstruction was unrelieved, he made a second opening over the cæcum. In the small intestine, at the junction of the jejunum with the ileum, he found a stricture, evidently the result of an old perforation. He performed enteroplasty, and later resected the artificial anus, bringing the cut ends together over a Mayo Robson's bobbin.

Mr. H. ALLINGHAM showed a third case, of a woman aged forty-one years, who suffered from severe gastric trouble some years previously. On opening the abdomen he found the pylorus involved in an enormous growth. He stitched the jejunum up to the stomach and united them over a bobbin. The operation was performed in July, 1894, and she had since gained over three stones in weight. The growth appeared to have diminished in size since the operation.—Mr. BIDWELL asked if Loreta's operation was inferior to that described; it seemed to him to be simpler. For gastro-enterostomy he preferred Halstead's method of stitching.—Mr. ALLINGHAM, in reply, said that pyloroplasty was the better operation for a rigid pylorus, a healthy piece of mucous membrane being inserted into the strictured portion. The bobbin acted like a splint and kept the parts firmly together.

Dr. STILL showed, for Dr. Colman, a boy aged ten years and three months who was the subject of Hypertrophic Paralysis, but in whom the knee-jerks were preserved. The weakness and enlargement commenced five years ago. There were three other children in the family, none of whom were affected. The head was curiously shaped; the mental condition was good. The muscles of the calves and the infra-spinatus muscles were markedly enlarged; the deltoids and triceps were enlarged to a less degree; and the vasti externi were enlarged and weakened more than the

interni. There was atrophy of the biceps, of the lower half of the pectoralis major, and of the latissimus dorsi. The knee-jerks, which had been very brisk, were still definitely present.

CLINICAL SOCIETY OF LONDON.

Cystic Hygroma in an Adult.—Two Cases of General Eczema and one of Psoriasis treated by Thyroid Extract.—Progressive Muscular Atrophy with Argyll-Robertson Pupils.—Two Cases of Congenital Dislocation of the Hip treated by a New Method.—Stenosis of Pharynx.—Lateral Rotation of Bodies of Vertebræ without Curvature.—Symmetrical Intermittent Parotitis with Xerostomia.—Extreme Displacement of the Heart due to Basic Cavity of Left Lung.—Green Urine due to Ingestion of Indigo.—Left-sided Empyema in a Patient who had had an Empyema on the same side Seven Years before.—Congenital Dislocation of the Shoulder backwards.

A CLINICAL MEETING of this society was held on Feb. 8th, Mr. J. W. HULKE, F.R.S., President, being in the chair.

Mr. RICKMAN GODLEE showed a case of Hygroma in an adult forty-one years of age, who when a boy had had a large swelling involving the neck, the side of the face, and the submaxillary region. This from time to time developed acute inflammation associated with pyrexia, sometimes threatening suffocation. He was first seen during such an attack in May, 1890. At that time there was a large swelling occupying the right cheek, floor of the mouth, and submaxillary region, extending part of the way down the neck and slightly to the opposite side. Part of the mass felt solid, but the greater part was obviously composed of larger and smaller cysts, some of the largest of which projected into the floor of the mouth. The tongue was covered on the upper surface with a great quantity of papillary masses, with countless minute cysts on its under surface. In November, 1890, Mr. Godlee removed through the mouth several of the large cysts, and no serious inflammation followed the operation. Since then the patient had been much more comfortable. He was again seen in November, 1894, complaining of a swelling below the zygoma, which extended over the ramus of the jaw and some distance behind it. He had taken iodide of potassium and arseniate of soda without appreciable benefit. This was, Mr. Godlee thought, an example of cystic hygroma, combined with an amount of nævoid structure. It was the first time he had met with this condition in an adult.—Mr. RUSHTON PARKER referred to similar cases which he had treated by injection, and asked what relation the nævoid growths had to lymphatic tissue.—Mr. GODLEE said the cysts communicated with one another and with lymphatics, and were lined with lymphatic epithelium. He regarded the cysts as lymphatic nævi and had removed them by wide incisions.

Dr. ALBERT WILSON showed a woman who had been suffering from Psoriasis, which gradually became general. In October last the thyroid treatment was commenced. The knees and elbows cleared first, and by the end of the year the skin was clear and supple and hair had commenced to grow. The treatment was stopped in January. There was no depression while taking fifteen grains of thyroidin three times a day. Two cases of General Eczema which had been treated by the same method had relapsed slightly on discontinuing the extract.

Dr. JAMES TAYLOR showed a case of Progressive Muscular Atrophy with Argyll-Robertson Pupils in a young man. Weakness of the right wrist had been complained of four months before he came under observation. There was wasting of the forearms and shoulders with fibrillar twitchings. The condition of the pupil was well marked.

Mr. W. ARBUTHNOT LANE showed a boy and a girl on whom he had performed the operation of placing the head of the femur in a cavity cut in and beneath the anterior inferior spinous process of the ilium, the proximal limit of the anterior portion of the capsule being sewn firmly to the fibrous tissues about the anterior inferior spine and to the straight head of the rectus femoris at its origin, this having been cut carefully away from its attachment to the innominate bone so as to leave quite enough to make a strong retaining ligament in its new position. The thigh was rotated outwards and fixed in a suitable apparatus at an angle with the foot of about 50° or more with the vertical. At the same time movements were commenced in the acquired joint, and these soon became very free. The most important fact was that the new articulation lay in front of the transverse axis around which the pelvis rotates—viz., a line passing through the acetabular cavities, so that instead of there being an ugly, insecure, and often incapacitating lumbar curve, with an unpleasant forward projection of the abdomen, the curve of the lumbar region was obliterated and the shortening that existed could be compensated without exaggerating the deformity, and with the result of tending to obliterate any lateral spinal curve that was previously present. It was not suggested to perform this operation in cases in which it was possible to bring the head of the femur into the acetabulum and retain it there. He had applied the same principle with the greatest possible mechanical advantage to cases of dorsal dislocation from disease of the hip joint and of ankylosis of this joint in a position of flexion.—Mr. BOWLBY considered that the first child walked very much in the same manner as if the dorsal dislocation were unreduced on one side, while the other appeared to be nearly ankylosed, with much eversion. He wished to know if any information could be afforded as to the treatment of cases of ankylosis.—Mr. F. C. WALLIS asked whether the improvement in walking noted in the boy might not be due to the raising of the foot by a high boot which had been worn since the operation. He thought the principal movement was in the pelvis rather than in the hip.—Mr. EVE referred to a case which he had treated in a somewhat similar way, making a new socket, and the head of the bone had remained in position. In another case the rim had been deficient and he had deepened the acetabulum. He recommended cutting through the great trochanter and turning it out with the muscles attached in order to gain access to the joint. He did not appreciate the advantage of advancing the head.—Mr. GODLEE doubted whether the head remained in position, inasmuch as the great trochanter appeared above the spine of the ilium.—Mr. MORGAN said the details of the operation offered many difficulties. There was great laceration of tissue and the immediate effects were severe. The result as to freedom and range of movement he did not consider a great advance on the original condition, and he was not disposed to perform the operation himself.—Mr. STANLEY BOYD had performed Hopper's operation, replacing both heads in the acetabula. Nevertheless, the child was unable to stand erect for some time afterwards, a failure he attributed to the undeveloped condition of the gluteus maximus. Later she could stand and walk. In another case, where dislocation resulted from acute effusion, one joint remained ankylosed, the opposite femur being placed in position beneath the anterior superior spine of the ilium. It lapsed into a dorsal dislocation with much eversion, but later the condition of the limb much improved.—Mr. MAKINS recounted the case of a child, who had never stood or walked, in whom he divided both femora with a successful result.—Mr. LANE said there could be no doubt of the marked improvement after operation; there was a stationary instead of a movable point of flexion, and the movements permitted were free and various. The transference of the joint in front of the axis of rotation of the pelvis was an important feature, reducing the lordosis and the difference in position of the head of the bone in the erect and supine positions.

Mr. BATTLE showed a case of Syphilitic Stenosis of the Pharynx. The patient, aged twenty-four, who had previously been under his care for tertiary ulceration of the upper part of the pharynx and gummata of the skin, developed difficulty in swallowing, with signs of commencing emphysema of the lungs, when under the care of Dr. Calvert at the Royal Free Hospital in the summer of 1894. He had been admitted for renal dropsy. The obstruction to respiration and the difficulty in swallowing were due to cicatricial contraction of the lower pharynx at the level of the tongue, the opening, no larger than a No. 12 catheter, being visible when the tongue was depressed. This was surrounded by very dense cicatricial tissue, and the epiglottis had disappeared. Mr. Battle had performed a preliminary tracheotomy and then divided the stricture with scissors and a sharp knife, using dilators. The pharynx had undergone contraction for a distance of about one inch and a half, the contraction being so irregular at one point that a No. 12 could not be passed. Much improvement had resulted from the operation, but it was still necessary to employ dilatation from time to time to overcome the great tendency to renewed contraction. He referred to the rarity of these cases, and to the extreme contraction in this patient, the mouth having been almost made a closed sac, the upper part of the pharynx being shut off from

the nose in a similar manner by the earlier disease. The communication would barely admit a cedar pencil.

Mr. BATTLE also showed a girl aged ten years with a most unusual condition of the Spine, one which resembled Rotation without Lateral Curvature. She had complained of pain in the back for six months, supposed to be due to strain. There was a fulness on the left side of the lumbar spine, much more marked on stooping, which was unaccompanied by rigidity or pain. It was like a bony column, well rounded towards the left and diminishing from below upwards. On the right side there was a depression, and the muscles gave the idea of "hollow tension," there not being a normal amount of resistance to pressure. She had lost the pain and her general health had improved, but the local condition was unchanged.

Mr. BATTLE showed a third case, a very rare one, of Recurring Symmetrical Parotitis with Xerostomia. The dry mouth began five years before. The patient, a married woman aged fifty-four years, was admitted to the Royal Free Hospital under Mr. Battle's care. The parotitis had been in existence on and off for two years; its cause was unknown. The parotids were subject to an inflammatory swelling which recurred on the two sides equally about every two or four weeks. The mouth was dry and smooth, this including the tongue and the mucous membrane of the cheeks, where the glands were atrophied, as well as in the epithelial surface. She was obliged for some time to drink fluid in order to permit of mastication. She had no teeth left, using artificial ones. The parotids were considerably enlarged and firm, markedly lobular, painless, not tender, and without affection of the skin. She was a nervous woman who easily flushed on excitement and had tremors without apparent cause. The condition of xerostomia began when she was about forty-nine years old, at which age the menopause occurred rather abruptly. She improved very much when in hospital, and an interval of two months intervened for the first time between two attacks.

Dr. A. T. DAVIES showed a case of Extreme Displacement of the Heart in a female patient aged thirty-three, single, who was admitted to hospital in February, 1894, complaining of cough and occasional attacks of bleeding. On examination there was found, in addition to left apical changes, a cavity at the left base extending up to the mid-scapular region. The apex of the heart was situated anteriorly to the posterior axillary fold. She was not seen again until December, when she complained that "her heart got in the way of her arm when she moved it." Examination showed that the apex beat was then situated under the angle of the scapula, so that it had been still further drawn towards the spine, a distinct systolic thrill was felt in the upper part of the axilla, and on auscultation a loud displacement murmur was heard. There appeared to be entire subsidence of the lung symptoms.

Dr. A. GARROD showed a specimen of Green Urine sent to him from the country by Mr. Harold Owen. It was quite limpid, acid in reaction, and had a tint resembling that of green Chartreuse. It was passed early one morning by a healthy child aged two years and a half, and it transpired that on the previous evening the child had been sucking some blue cloth. The tongue was stained dark-blue. This cloth proved to be dyed with indigo. Analysis of the urine showed that the green colour was due to the combination of the yellow tint of the urine with the blue of indigo. On passing the urine through filtering paper it lost much of its green tint, and the paper was stained blue, showing that the indigo was in suspension.

Dr. S. WEST showed a lad aged fifteen who was seen at St. Bartholomew's Hospital with signs of Fluid in the Left Chest, and who gave a history of an empyema eight years previously, for which he had been operated upon. The diagnosis lay between phthisis with a thickened pleura and a second effusion, and it gave rise to much difference of opinion. A fortnight later a needle was inserted in the mid-axillary line, but no fluid escaped. As the area of dulness increased a second puncture was made later in the sixth interspace in the anterior axillary line, this time with the result of discovering pus. The next day the side was opened in the mid-axillary line and twelve ounces of pus removed. Recovery was rapid and uninterrupted and the lung re-expanded.

Mr. EVE showed an infant aged nine months delivered with instruments. The mother stated that the day after birth the left arm was noticed to be paralysed. On admission the movements of the left shoulder-joint were obviously limited, the arm being held stiffly and rigidly across the chest, about opposite the nipple. A smooth spherical tumour, evidently the head of the humerus, was felt on the dorsum of the scapula, just beneath the junction of the acromion with the spine. The articular surface was directed backwards and to the right. There was half an inch shortening on the affected side. It was, he said, difficult to imagine how such a condition could be produced by injury during parturition unless the joint was malformed.

OBSTETRICAL SOCIETY OF LONDON.

Some Observations on the Temperature, Pulse, and Respiration during Labour and the Lying-in.—Annual General Meeting.

A MEETING of this society was held on Feb. 6th, G. E. HERMAN, M.B. Lond., President, being in the chair.

Dr. R. J. PROBYN-WILLIAMS and Mr. LENNARD CUTLER read a paper on Some Observations on the Temperature, Pulse, and Respiration during Labour and the Lying-in, in which they first considered the effect of *labour* on the temperature, pulse, and respiration. They find that their temperature results coincide with those of Dr. Giles.[1] They consider the low rate of the pulse after delivery, as given in the text-books, exaggerated. In 100 cases of normal labour observed in connexion with this point, they found that in 76 the rate was diminished, in 11 it remained stationary, and in 13 it was increased after the end of the third stage. In this series the average decrease between the rates during the first stage and half-an-hour after the end of the third was 11 beats per minute (from 89 in the first stage to 78 after delivery). Parity and the length of the labour have some influence on this fall; and after the administration of chloroform during labour it is common to find the pulse remaining high after delivery. In 19 cases of post-partum hæmorrhage there was an average rise of 19 beats per minute (78 during labour, 97 after delivery). Tension, as estimated by tracings made with Dudgeon's sphygmograph, is usually above normal during labour; but is occasionally low, notably in one case in which delivery was followed by considerable hæmorrhage. After delivery there was on the average a fall of 1 respiration per minute (23 during labour, 22 after delivery). After the administration of chloroform this decrease was not observed. They found that the average temperature of 100 cases varied between 98° and 99° F., being higher in the evening than in the morning. The highest average temperature was reached on the first day, and was higher in primiparæ than in multiparæ. Rupture of the perineum had no appreciable effect on the temperature during the puerperium. They do not agree with the statements in the text-books that the pulse is normally very slow during the first week, but found that the average rate of 100 cases was never lower than 72. The pulse-rate was faster in the morning than in the evening throughout this series. In a few cases the tension is diminished by delivery, but in the majority it is increased. Whatever may be the tension of the artery during labour, and whether it rise or fall after delivery, within twenty-four hours it has always increased so much that it is at least as great as, and generally greater than, the tension during labour. This increased tension may persist throughout the puerperium, and commonly lasts longer in multiparæ than in primiparæ. The rate of respiration was found to vary between 20 and 22 per minute. It tends to follow the pulse-rate in being higher in the morning, and not the temperature, which is higher in the evening.

The annual general meeting of the society was then held. The reports of the Hon. Treasurer (Dr. Potter), the Hon. Librarian (Dr. John Phillips), and the Chairman of the Board for the Examination of Midwives (Dr. Champneys) respectively were read and adopted, and a vote of thanks passed to each gentleman.

The PRESIDENT then delivered his valedictory address.—Dr. GERVIS proposed, and Dr. HAYES seconded, that a votes of thanks be accorded to the President for his address, and that it be published in the Society's Transactions.—This was carried unanimously.

The report of the scrutineers of the ballot was read. It was to the effect that the list recommended by the Council had been adopted, with the exception that Dr. Cullingworth

[1] Transactions of the Obstetrical Society, 1894.

was elected chairman of the Board for the Examination of Midwives.

The names of the officers have already appeared in our last week's issue. The following are members of the Council:—Dr. Thomas Rutherford Adams (Croydon), Dr. Fletcher Beach (Sidcup), Dr. Robert Boxall, Dr. Archibald Donald (Manchester), Dr. Lovell Drage (Hatfield), Dr. William John Gow, Dr. Walter S. A. Griffith, Dr. Gerald S. Harper, Dr. Constantine Holman, Dr. John D. Malcolm, Dr. David Ritchie Pearson, Dr. William Rivers Pollock, Dr. Leonard Remfry, Dr. Walter W. H. Tate, Mr. Willoughby Furner (Brighton), Mr. John Henry Salter (Kelvedon), Mr. John Bland Sutton, and Mr. James Henry Targett.

A vote of thanks to the retiring officers and other members of the Council was passed.

The following specimens were shown:—

Dr. REMFRY: Case of Absence of Uterus and Breasts.

Dr. GRIFFITH: A patient on whom Symphysiotomy had been performed.

Mr. BUTLER-SMYTHE: Pellet-like Bodies contained in an Ovarian Dermoid Cyst.

Dr. W. DUNCAN: Microcephalic Fœtus, with only one Palpebral Fissure and no Nose.

HUNTERIAN SOCIETY.

The Hunterian Oration on a Microbe of Malaria.

THE Hunterian Oration, delivered before the Hunterian Society on Wednesday, Feb. 13th, has this year been made the occasion of a most interesting and instructive exposition of one of the recent developments of symptomatology—the discovery of the microbe of malaria. It was delivered by Dr. PATRICK MANSON, who has had large experience of tropical diseases in China.

When announcing that his theme would be Malaria and its Parasite he drew attention to the vast practical importance of the subject, and deplored the inattention of English investigators to this field of research, which has been so profitably cultivated by Continental and American observers. Though malaria is rare in England, yet in India in 1879 3,500,000 persons died from fever of various descriptions, and of that number Sir Joseph Fayrer estimates that about one-half succumbed to malarial fever; that is to say, malaria is in the aggregate more destructive than tubercle, and claims six times as many victims as cholera. The specific organism of the disease was discovered by Laveran about fourteen years ago. It is polymorphic, occurring in the blood in very numerous and varied forms, most if not all of which may be classified under certain leading types: (1) free spores and free sporulating bodies, often having the outline of a diverging rosette; (2) small unpigmented epi- and intra-corpuscular bodies; (3) large pigmented intra-corpuscular bodies; (4) intra-corpuscular rosette bodies; (5) crescentic bodies; (6) various forms derived from those already mentioned; (7) flagellated bodies and free flagella; (8) bodies which are probably degenerate stages of some of those already enumerated; (9) pigmented leucocytes. These are phagocytes which have ingested the particles of pigment set free when the rosette body falls to pieces and this process of pigment inclusion can often be witnessed. All these various bodies are but different stages in the life of a sporozoon. The best explanation of their mutual relationship is that supplied by Golgi, who considers that the free spores are the first stage, and that they, invading the red blood-corpuscles and nourishing themselves on the hæmoglobin, grow into the larger pigmented intra-corpuscular forms. After a time these segment and become the rosette bodies, which presently fall to pieces and liberate spores, to start a new generation. The flagellate bodies originate either (1) from certain of the large intra-corpuscular pigmented bodies, which, having escaped from the corpuscles, after a time throw out flagella; or (2) from the crescentic bodies, which can be often seen under the microscope to change into oval and spherical bodies, and finally to throw out flagella. There are believed to be at least two leading types of the malaria organism, the benign and the malignant, differing both in their figure and in their pathological effects. The former never gives rise to the fatal pernicious fevers, but only to the mild tertians, quartans, and double tertians called quotidians, found both in temperate and in warm climates. It appears in the peripheral circulation in all its stages of small intra-corpuscular amœboid body, large pigmented form, rosette, and flagellated body. The malignant forms produce the dangerous remittents, quotidians, and tertians of warm climates. They appear in the peripheral circulation chiefly (and sometimes only) as the small epi- or intra-corpuscular non-pigmented form, and are frequently ring-shaped. The rosette, or sporulating, bodies and the pigmented intra-corpuscular bodies of the malignant type are very rarely obtained from finger blood. These stages of this type are passed in certain viscera, such as the spleen, brain, &c., and the organisms can be obtained by aspirating blood from the spleen at the beginning of a febrile rigor. The special virulence of this type seems to depend on its habit of accumulating in the viscera quite as much as on the pyrogenetic toxine which it is supposed to liberate. A principal and characteristic feature of the malignant parasite is the crescent-shaped body, a form which is usually present in the finger blood when the infection is of some standing, and especially when cachexia is marked.

Dr. Manson illustrated his description of the microbe by microscope specimens of blood from cases of typical malaria, as well as by drawings of the organisms. He also read the clinical notes of four cases of genuine tropical malaria occurring in patients under his care in the Albert Dock branch of the Seamen's Hospital, the temperature variations and the associated increase or diminution in the numbers of the microbes being represented in graphic curves. The first case was a man, stated to be forty years of age, but looking more like sixty, admitted into hospital last September. For the last five years he had been employed on steamers plying between London and Bombay. Two days after leaving Bombay on Aug. 4th, 1894, he fell ill with weakness, inability to work, excessive perspiration, and thirst, and was treated with quinine. He was not delirious and was not confined to his bed. The vessel having arrived in London he was taken to the hospital on a stretcher on Sept. 4th. On admission his temperature was 100° F., but was normal next day. His liver was somewhat enlarged, but his spleen did not apparently extend beyond the edge of the ribs. He was slightly anæmic, there was no albumen in the urine, and the thoracic viscera were healthy. He suffered from conspicuous mental aberration, apparently dementia. He was with difficulty induced to speak, and after uttering a few words he often terminated the conversation by turning his back on the questioner. At times he would get out of bed and wander about aimlessly. This demented and apyretic condition continued for about a week. On Sept. 11th his temperature was 101·6°, on the 12th it was normal, and on the 13th at 4 P.M. it was 102·2°. His apathetic, sullen demeanour, difficulty in finding words, and tendency to turn his back when spoken to recalled to Dr. Manson a case of malarial aphasia which he had seen in China many years ago, and suggested that the patient's mental symptoms might be of malarial origin and due to an accumulation of organisms in the cerebral vessels. This suspicion was at once confirmed by examination of the blood, which teemed with parasites, many being visible in every field of the microscope, and many different forms occurring simultaneously. Manifestly the patient was suffering from a mixed malarial infection, including ordinary tertian or quartan ague, as indicated by the large pigmented intra-corpuscular bodies, and in addition a malignant tertian of some duration, as indicated by the small ringed parasites and the numerous crescents. At 8 P.M. the organisms, though fewer than at 4 P.M., were still very numerous, and in seven fields twelve parasites and pigmented leucocytes were counted. On Sept. 14th the blood did not yield much additional information, but on the 15th a sporulating parasite was found for the first time, indicative of an impending paroxysm of fever. Accordingly at 2 P.M. the patient had a rigor, and at 4 P.M. enormous numbers of small epi- and intra-corpuscular unpigmented forms were discovered, showing that large numbers of spores had been liberated by the breaking up of rosette forms. No fewer than eighteen corpuscles in six fields were invaded by these bodies. On Sept. 16th at 8 A.M. fifteen parasites and two pigmented leucocytes were found in eight fields. Treatment by quinine was now commenced, and twelve hours later, after twenty grains had been taken, twenty fields yielded only nine parasites and two pigmented leucocytes. On the afternoon of Sept. 17th it required thirty-six fields to yield the same number of parasites and pigmented leucocytes, and there was no rise of temperature at the hour at which

it was due. On Sept. 13th there was a slight rise of temperature during the early morning, but only two parasites and two pigmented leucocytes were discovered in thirty-five fields. Thereafter for four days a few crescents and flagellated organisms were found, but it was evident that the parasites were rapidly disappearing. On Sept. 22nd one flagellated organism was found after examination of fifty fields, and no more were subsequently discovered. The patient's mental condition rapidly improved, coincidently with the cessation of the fever and the disappearance of parasites from the blood, and when he left the hospital some weeks later he seemed to be in sound health both mentally and physically. This case exemplified the high practical value of examination of the blood as an aid to diagnosis. It showed also that quinine, while powerful in subduing the fever and in destroying the ordinary intra-corpuscular forms of the parasite, acts less promptly against the crescentic forms of the organism and the flagellated bodies derived from them. Laveran states that the flagellated bodies are among the first to disappear on the administration of quinine, but Dr. Manson's experience is to the effect that as long as crescents are seen in the blood so long will the flagellated bodies be encountered. In the present case the crescentic forms were to be detected fully a week after the first administration of quinine, and they persisted, though in diminished numbers, for a considerable time after all the other parasitic forms had disappeared. The next case was that of a man who contracted malarial fever in the West Indies and who was admitted to the hospital on Nov. 1st, 1894. He was treated by rest in bed in a warm room, liberal diet, and a gentian placebo without quinine at any time. The result was spontaneous recovery, although rigors occurred on the 2nd, 3rd, and 4th. It was interesting to observe the progressive gradual disappearance of the organisms from the blood. The flagellate organisms were found only after a long and patient search. Dr. Manson agrees with Mannaberg in the opinion that this organism is present always and in every case, although it may be in numbers so small that for days it escapes detection. In the remaining two cases microscopic examination of the blood yielded results similar to those already described.

Dr. Manson next pointed out the extreme value of examination of the blood as a means of definitely recognising the comatose, hyperpyrexial, choleraic, and other forms of paludism. He believes that many cases of so-called sunstroke or heat apoplexy are really malarial and are to be treated by prompt immersion in cold water and hypodermic injection of quinine. The portable and inexpensive pattern of microscope devised by Surgeon-Major Ross, and shown to the audience, is excellently adapted for these investigations. The routine practice of treating pyrexia in tropical diseases with quinine is an error which may be avoided by the use of the microscope, quinine being given only when the malaria microbe is present. In conclusion Dr. Manson dwelt on the ease with which the microbe may be recognised by any microscopist after a very little practical instruction, and on the difficulty in finding it experienced by those who have not had the advantage of a preliminary demonstration. He assured his hearers that plenty of cases of malaria and several other tropical diseases will be revealed by researches in the neighbourhood of the docks, and that clinical material sufficient for instruction may be obtained without much difficulty or expense. To those about to enter on practice in tropical climates Dr. Manson's address was of the highest interest.

BRIGHTON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Uric Acid Gravel.

A MEETING of this society was held on Feb. 7th, Mr. VERRALL, President, being in the chair.

Dr. PALEY showed a man aged forty-four years, a turner by trade, suffering from Molluscum Contagiosum. The eruption was first noticed on the back of the neck six months ago. It has now spread beneath the chin and on to the front of the neck. There has been one vesicle on the eyelid. The patient is married, but neither wife nor child are affected.

Dr. CRESSWELL BABER showed a woman aged thirty-one years, who came to the Throat and Ear Hospital on Feb. 12th, 1894, complaining of head pain and discharge from the right ear. A large polypus, measuring nearly one inch in length, was removed from the meatus. Afterwards a soft band was seen stretching horizontally across the fundus of the ear, which subsequently contracted till it became very narrow. On March 12th, as she still complained of pain, although less severe, she was made an in-patient. The pain was in the occipital and right temporal region and "throbbing." There was some tenderness on pressure over the right mastoid. After rest and blistering there was improvement, and the patient was discharged on March 20th, there being still some tenderness on deep pressure. Various astringent remedies were applied locally to the ear and antipyrin and other drugs administered internally. The pain was, however, so persistent as to incapacitate from work, and after consultation with Dr. Urban Pritchard it was decided to open the antrum. On Oct. 23th the antrum was opened under aseptic precautions in the usual position with a gouge and mallet. The bone was sclerosed and very dense. The antrum was not reached until the bone had been penetrated half to three-quarters of an inch. The cavity was small and did not contain pus. A probe passed into the wound touched another introduced through the meatus, but liquid did not syringe through. The wound was plugged with cyanide gauze. The patient did perfectly well, and the wound healed by Dec. 21st. The temperature never rose to 100° F. The pain was completely removed and has not returned. The ear still suppurates a little. There is now no distinct tenderness on pressure over the mastoid. Dr. Baber considered this one of the cases in which operation is demanded on account of continued pain, the result of intrinsic pressure, and which is relieved by the removal of a piece of bone.

Dr. GORDON DILL showed a man suffering from an attack of Gout in the Hand of a painless nature.

Dr. VAUGHAN HARLEY read a paper on Uric Acid Gravel, its Chemical Pathology, Symptoms, and Treatment. In a comprehensive memoir on the chemical pathology of uric acid he showed that there is no experimental evidence of its being converted into urea in the animal body, and that it is not derived from the metabolism of the general proteids which yield urea, but from the nuclein furnished by the nucleo-albumen of the tissues. After a meal, especially of animal food, the uric acid excreted rises rapidly, so that in from two to five hours the amount may be twice or thrice as much as during abstinence from food. Now it is known that a hearty meal, especially of animal food, is followed by a great increase of leucocytes in the blood, and it appears that this increase of uric acid in the urine is coincident with the destruction of the leucocytes and the liberation of their nuclei. It has been found that the uric acid excreted in leucocythæmia may be double the amount eliminated by a healthy person, the urea formation being alike in both cases. This shows that the nitrogenous matter taken as proteids in the food was equally eliminated in both cases, while the preponderance of leucocytes in one case led, by their extensive breaking-down, to a proportionate excess of uric acid. The actual seat of the formation of uric acid is still undetermined; there are some grounds for locating it in the liver. The precipitation of it in the solid form is probably due to the acid lecithin-albumen of the kidney converting disodic phosphate of alkaline reaction into monosodic phosphate of acid reaction. In the normal formation of urine the bases which combine with the lecithin-albumen are in their turn taken up by the carbonic acid generated in the tissues, and the lecithin-albumen is thereby set free for renewed action. When the blood contains a sufficiency of disodic phosphate, as in ordinary circumstances, the renal cells do not break up the soluble urates; but when the alkalinity of the blood is diminished the renal cells liberate uric acid, which is precipitated either in the tubules of the kidney, in the urinary tract, or in the voided urine, and the appearance of uric acid gravel is the result.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases.—An Unusual Form of Anæmia.

THE fifth ordinary meeting of this society was held on Feb. 6th, the President, Mr. T. F. CHAVASSE, being in the chair.

Mr. ASTLEY PROSSER showed a patient with a number of Growths in the Subcutaneous Tissue of both Arms and Thighs. The tumours, which had been noticed for nine years, were multiple, sessile, and varied in size from a pea

to a small orange. The larger masses were tender and showed some signs of inflammation. The growths were probably myxo-fibromata or fibro-lipomata.—Mr. HASLAM showed a man aged thirty-six the upper part of whose left thigh had been crushed by the passage over it of the wheels of a waggon. On admission the upper part of the thigh was bruised and there was a broad depression seen crossing the limb from just below the attachments of the adductor muscles to the pelvis, passing across the thigh below and parallel to Poupart's ligament and just missing the anterior superior iliac spine. There was no fracture of bone, but no pulsation could be felt in the femoral artery or in the posterior tibial; the limb was cold and pale. It was elevated and kept warm, the collateral circulation proving equal to maintaining its vitality. There was never any sign of impeded venous return, nor was there any amount of extravasated blood at the seat of injury, and to these two facts the successful issue of the case is to be largely attributed. The diagnosis was a rupture of the inner and middle coats of the common femoral artery. The patient is now well and able to work, and a feeble pulsation can be felt in the posterior tibial artery. The accident occurred eleven months ago.—Mr. BARLING showed a boy aged eleven who was admitted to the Birmingham General Hospital on April 14th last, with a very extensive compound depressed fracture of the right side of the head. He was deeply unconscious, and was operated on without an anæsthetic, an area of depressed bone about two inches and a half square being removed from the right side. From this a fracture ran horizontally round the forehead and was lost in the bone of the left side of the head. A large quantity of blood was liberated by stripping the dura mater from the bone of the vault of the skull. The next day it was discovered that the right arm and leg were paralysed, and to some extent the left side of the face. The boy was still unconscious and remained so for eleven days, during which time he had to be fed with a nose tube. On the twenty-first day he noticed things going on around him, shook hands when asked to do so, but with his left hand. He was unable to speak or to produce any sound except a grunt, and could not protrude his tongue; he could understand written and spoken words, and could write with his left hand. The left side of the face was still inactive, but the right arm and leg were much better. On the thirty-fourth day he spoke for the first time, saying "orange," "yes," "no," and his name very indistinctly and with a nasal twang, and it was then discovered that the soft palate was paralysed on both sides. There was now steady improvement of the paralysed parts all round, and he was discharged eight weeks after the injury practically well. The wound healed by first intention, and gave no trouble at all. At the present time the boy is emotional and easily irritated, but the only distinct remnant of his various paralyses is a slightly nasal voice.—Dr. CARTER showed a man aged twenty-nine with Complete Paralysis and Atrophy of the Deltoid, Supra-spinatus and Infra-spinatus Muscles of the Left Shoulder. Four years ago he sustained some injury of that shoulder and the adjacent part of the neck from a fall, and previously to an attack of small-pox last year the limb had not been so strong as before the injury, but no marked wasting was observed; on his recovery from the attack of small-pox, which was very severe, he found that he had lost the power of raising his left arm. Neither of the above-mentioned muscles react either to faradaism or galvanism. Dr. Carter considered that the lesion was in the left anterior cornu of the cervical cord, and though directly due to the influence of small-pox might possibly have some remote connexion with the injury received four years ago.—Dr. CARTER also showed a case of Persistent Brachialgia in a man sixty years of age, supervening on an injury to, and amputation of, the third finger upwards of a year ago.—Mr. E. LUKE FREER showed a boy with Relapsed Talipes Equino-varus, which he had treated by tenotomy and manipulation and massage. The feet now showed little, if any, deformity, and the boy walked well.

Dr. DOUGLAS STANLEY then read a paper on an Unusual Form of Anæmia. The subject of the paper was that form of disease frequently called "splenic anæmia," a term which is likely to cause confusion. The cases are characterised by a marked reduction in the number of red blood-corpuscles, the white being unaltered or else also reduced. There are frequently poikilocytes and even poikiloblasts present. The hæmoglobin is also reduced. The spleen is greatly increased in size and the liver is frequently enlarged. There is no affection of the lymph glands. Marked asthenia passing into marasmus is observed, and in some cases there is pigmentation of the skin, which may occur in local patches. The duration of the disease may extend over many years, and during its course there are acute attacks, during which the patient is greatly prostrated, may become of a yellow olive colour, and the temperature may rise to 105°F. During such an attack the urine becomes of a dark-brown red colour and contains large quantities of pathological urobilin. When such an attack passes off there is a slow restoration to the former condition. The pathological basis seems to consist in severe hæmolysis, probably due to the absorption of products from the intestine. Post mortem sclerosis of the spleen and pancreas was found, with marked changes in the supra-renals. The prognosis is always bad, although the duration may be long. The treatment which has done most good seems to be intestinal antisepsis. Extract of supra-renals (freshly prepared) produced a marked increase in the number of red blood-corpuscles.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.—Bullet Wound of the Thorax.—The Use of Increasing Doses of Bromides in Cases of Obstinate Epilepsy.

A MEETING of this society was held on Feb. 5th, Dr. ADOLPH BRONNER, Vice-President, being in the chair.

Dr. WOOD showed: 1. A Ruptured Lung. 2. The liver from a case of Suppurating Hydatids. Frequent aspiration had been practised, followed later by abdominal section (in two stages) and drainage. For six weeks all went well, the cyst draining satisfactorily. Three days before death signs of peritonitis set in. Post mortem a large cyst, containing clear fluid, was found in each lobe of the liver. The cyst which had been drained was found to be contracted. The cause of the peritonitis was doubtful. 3. Heart showing Embolus *in situ* in the Pulmonary Artery. This was taken from a woman who had her leg broken in a railway accident, there being also bruising of the femoral and tibial veins.—Mr. HORROCKS showed: 1. A Sarcoma of the Lower End of the Femur taken from a boy, amputation of the thigh having been performed. The growth was of three months' duration. 2. A Stomach showing a Perforating Gastric Ulcer.—Mr. MERCER related the early history of this case. For three years a woman had symptoms of gastric ulcer. Early one morning before taking any food a sudden attack of severe abdominal pain came on, causing the patient to swoon. Gastric perforation was diagnosed and operation decided on. Abdominal section was performed the same evening by Mr. Horrocks. A perforation of the stomach on its anterior surface near the cardiac end was found; and a fusiform piece around the perforation having been cut out with scissors the opening was closed. The peritoneal cavity was sponged out and drained. On the eleventh day the patient died from general peritonitis. The case was discussed by Drs. A. Bronner, Major, Rabagliati, and Bell, and Mr. Horrocks replied.—Dr. RABAGLIATI showed: (1) a Suppurating Ovary; and (2) an Ovary and Tube showing signs of Inflammation and Cystic Formation.

Dr. WOOD read notes of a case of Bullet Wound of the Thorax in which, although both lung and pericardium were injured, yet the patient made a good recovery. No surgical interference was attempted.

Dr. H. BRONNER related his experience in the Use of Increasing Doses of Bromides in Cases of Obstinate Epilepsy, as many as ninety grains of potassium bromide being given during the day, the dose being regulated by the frequency of the attacks. In one case the bromide produced a rash which closely simulated scarlet fever—fever, rash, and sore-throat being well marked. In another case marked loss of memory came on after the taking of bromides in large doses, requiring the medicine to be omitted. The paper was discussed by Dr. A. Bronner, Dr. Major, Mr. Wilmot, Dr. Evans, Dr. Bell, Mr. Shackleton, and Mr. Mercer, and Dr. H. Bronner replied.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Cardiac Therapeutics.

THE fifth meeting of the seventy-fourth session of this society was held on Feb. 6th, Dr. CLOUSTON, President, being in the chair.

Professor T. R. FRASER opened a discussion on Cardiac Therapeutics with a paper on the Remedies employed in Cardiac Affections and their Indications. He emphasised the importance of the subject to the general practitioner. Having glanced at the history of digitalis and its action as a strengthener of the cardiac contractions and not as a sedative, he pointed out that many substances had been used in cardiac disability—for example, strophanthus—all of which belonged to a single group. He gave illustrative cases where in affections of the mitral valve, especially regurgitation, strophanthus had been used. Tracings showing the improvement in the pulse were shown, and the increase in the amount of urine during the exhibition of the drug was dwelt upon. In mitral and tricuspid disease, with bronchitis and emphysema, the drug had been found of great benefit. The effects of uncomplicated mitral stenosis were not so benefited by its use as incompetence. In both aortic stenosis and incompetence there was usually compensation through hypertrophy, and so the group of cardiac stimulants were not necessary. In angina opium, nitrites, or nitro-glycerine were indicated. Nitrites, however, frequently failed, sometimes where there was high tension, and sometimes succeeded where the tension was low. Iodide of potassium he could see no indication for using in cases of high tension. Its only action could be on the fibrous changes in the aorta and heart. Sometimes in aortic disease stimulants to the cardiac muscle did good. A case was narrated where from want of compensation the treatment indicated was that applicable to auriculo-ventricular disease. Under strophanthus the patient rapidly became convalescent. When cardiac degeneration came on in aortic disease and auriculo-ventricular disease appeared the cardiac tonics were indicated. Illustrative cases were given where strophanthus had proved of great value. Not only in valvular disease, but also in affections of the myocardium, this group of substances proved useful. A case was instanced where, though there was no organic valvular disease, there was dilatation and great œdema, the result of the cardiac weakness. On the exhibition of strophanthus a rapid recovery ensued. Other conditions were mentioned, for example, the cardiac weakness during fever, where tonics were indicated. Strophanthus had also been used to prevent the reaccumulation of fluid in the pleura by increasing the flow of urine. Failure should be looked for where the myocardium was so degenerated that it could not be stimulated and where the valves were so stenosed or so incompetent that compensation could under no circumstances be set up by any agent. It was claimed for strophanthus that it had been shown experimentally that it increased the cardiac contractions better than any other drug. It was entirely soluble and so was superior to digitalis, some of the active principles of which were insoluble. Again, the action of digitalis on blood-vessels was greater than its action on the heart, and hence [illegible] use was restricted as it increased the work the heart has [illegible] Both drugs might fail in producing diuresis from this [illegible] even though the action of the strophanthus on the [illegible] vall was but slight. The one indication for the use of [illegible] tonics was cardiac insufficiency, and the practitioner should use the drug with whose action he was most familiar. Other measures of cardiac therapeutics, especially rest, were dwelt upon. Warning was given against the administration of digitalis wherever a cardiac bruit was discovered without due reference to the circumstances of the case.

Dr. G. W. BALFOUR agreed that rest and diet were well fitted to cure many cases of cardiac disease without the use of digitalis. He had been rather disappointed in the use of strophanthus, probably owing to its want of action on the blood vessels, and hence the blood-supply of the heart not being so much increased as by digitalis. He had always found the heart respond readily and regularly to due doses of digitalis. Formerly the doses used were much larger than at present. He counselled caution in the use of large doses on account of the cumulative action. If used with caution the drug could be continued for months or years. One grain every twelve hours was enough to get the tonic action, and could be continued for months or years. Where there was much œdema it was better to give large doses at short intervals to ensure rapid action; three to five or seven grains every four hours might be given with caution until diuresis set in. Evidence of saturation till thirty to forty grains had been given was seldom seen. When diuresis set in digitalis might be stopped for a few days, and when diuresis began to fail be begun again. When digitalis was given in smaller doses at frequent intervals the action set in more gradually—differing from the copious sudden diuresis attendant on large doses. We might not notice the slowing of the pulse, and might be brought face to face with digitalis poisoning. Under those circumstances it was difficult to avoid saturation, with sickness, nausea, and rapid irregular action of the heart. Slowing of the heart was not of any great importance, and occurred early in the use of the drug. Digitalis in pretty full doses not only caused contraction, but kept the heart contracted. In all cases of heart disease we must remember that compensation was for ever failing. There was no such thing as perfect compensation. It was well to take time by the forelock and to feed the heart and tune it up, and so postpone the more serious developments. This held in all classes of cases, even in mitral stenosis. Digitalis was not always necessary, but strychnine or arsenic might be used. Where there was free regurgitation, either mitral or aortic, we should use digitalis as a tonic to the heart, but also to contract the heart and prevent dilatation. Especially was this necessary in aortic regurgitation when from the hydraulic laws which govern the circulation we had a column of blood by its weight more or less rapidly dilating the ventricle. The heart should be contracted and the urgent symptoms thus relieved. The patient must be placed in the recumbent position and relieved from pressure. Where there was obstruction in front in the shape of diseased arteries vascular stimulants must be used, or the heart may become irritable and irregular in consequence of being thrown into a state of strain. He preferred iodide of potassium because he found it efficacious. In doses of two or three grains it quieted the heart apparently because it prevented the action of digitalis on the arterioles and allowed the blood to pass more easily. Iodide was more permanent in its action than nitrites or other drugs. Iodide given in moderate doses dilated arterioles, reduced blood pressure, and allowed an aneurysm to contract. Large doses were not good. The patient was put to bed, the recumbent pulse-rate ascertained, and the iodide administered in increasing doses till the pulse-rate began to rise; we thus got the exact dose necessary to dilate the arterioles. Dr. Balfour concluded by emphasising the necessity for very careful diagnosis in cardiac conditions.

Sir T. GRAINGER STEWART found digitalis more successful than strophanthus, probably because the latter might be inferior to that used by Professor Fraser. Strophanthus was, however, better for an emergency than digitalis. It was important not to use cardiac tonics if there were active changes going on in the heart. In those cases he preferred iodide of potassium. He advocated the use of allied remedies with the cardiac tonics. In practice he attached the greatest importance to mechanical relief to the circulation by tapping pleural effusions, ascites, &c.

Dr. AFFLECK expressed his general concurrence with the statements made. Every cardiac case required treatment on its own merits; when treatment became indicated by evidence of failing compensation it was very often found that other organs had developed diseased action also. And we had to address ourselves to this state of matters, which to a large extent interfered with the application of cardiac remedies. The state of the cardiac wall, lung, kidneys, and liver became of prime importance if we were to deal effectively with the case. He preferred digitalis to strophanthus as a tonic, but found the latter useful in emergencies. He dwelt on the value of rest and diet, and the hygiene of the case. In dyspnœa dry cupping was of the greatest value, and if there was much lung engorgement moderate bleeding. In insomnia he advised the administration of equal parts of morphia and chloric ether. Speaking of the collapse which occurred in pneumonia and delirium tremens, Dr. Affleck advised the use of digitalis in large doses.

Dr. UNDERHILL spoke of the occurrence of heart trouble in children as the result either of rheumatism or of influenza, and the functional disorder of the heart in children. He spoke of the value of rest in the treatment of organic lesions, not rest for weeks, but for months or years. He advised caution in the use of opium in angina in elderly people, as the case might be gouty and complicated with gouty kidneys.

The discussion was adjourned.

SERVICES REWARDED — Brigade-Surgeon L. Boor, M.R.C.S. Eng., of Nelson, New Zealand, has been awarded the Imperial Volunteer officers' decoration for having served in the New Zealand Volunteer force for nearly twenty-four and a half years.

Reviews and Notices of Books.

Lo Svolgimento Storico della Fisiologia. Prelezione del Professore L. LUCIANI al suo Corso di Fisiologia nella Reale Università di Roma. Torino: Ermanno Loescher. *(Historical Evolution of Physiology.* Lecture by Professor L. LUCIANI in his Course of Physiology at the Royal University of Rome. Turin: Ermanno Loescher.) 1894.

La Fisiologia in rapporto colla Chimica e colla Morfologia. Prolusione al Corso di Fisiologia Sperimentale del Dottore GIULIO FANO, Professore Ordinario nel Reale Istituto di Studi Superiori in Firenze. Torino: Ermanno Loescher. *(Physiology in its Relation to Chemistry and Morphology.* Address in the Course of Experimental Physiology, by Dr. GIULIO FANO, Ordinary Professor to the Royal Institute of Higher Studies at Florence. Turin: Ermanno Loescher.) 1894.

THESE two publications may be taken as the high-water mark of biological thought and work in Italy. They proceed from men who, in the experimental laboratory and academic chair, have already given proof of no ordinary power in research and in exposition. The first is by Dr. L. Luciani, lately chosen to succeed Professor Moleschott in the chair of Physiology at the Sapienza—an appointment received with universal satisfaction in all the schools and professional centres of Italy,—and it sustains quite worthily the high standard of scientific and literary excellence which made his predecessor's "prolusioni accademici" famous. Starting with a "strategic map," so to speak, of the biological field, he shows how evolution within its limits has been carried out in the past and how its movements may be made still more effective for the future, laying his finger on the points which require reinforcing, and from which fresh attacks may be delivered with every prospect of success. This is done in the course of a brilliant retrospect of previous operations, in which the leaders of biological thought and work are "placed" and estimated with extraordinary precision and vividness. He is thus induced to revise many traditional views as to the respective values of these pioneers, and sets posterity right as to the exact amount of service rendered by each. For example, after commenting on the disastrous reversion of biological research into the "high *priori* road" by the "mechanical dynamism" of Hoffmann and the "animism" of Stahl in the last century, he indicates the salutary return to true scientific method effected by Haller, and, while giving him due credit for his work of rehabilitation, points out that the Swiss biologist's beautiful object-lessons in experimental investigation had been anticipated by the English Glisson, the real author of that doctrine of "muscular irritability" which goes by Haller's name. A healthy catholicity of appreciation pervades Professor Luciani's instructive monograph, not least conspicuous in his eloquent "apologia" for error as a contributing force in the development of biology. In a striking passage he distinguishes between "errori felici" (happy errors) and "errori funesti" (disastrous errors), and shows how even Paracelsus, with scarcely a sound indication or theory to show, had an indispensable place in biological history. Van Helmont and Silvius, amid all their waste of power and perversion of ingenuity, were also workers of good, something more than admonitory finger-posts to subsequent explorers. Borelli, again, the initiator of "animal mechanics," has been of signal use by his "errori felici," while Santorio—"that patient and acute experimentalist who lived whole days and nights suspended in a balance to determine the variations of his weight in relation to *ingesta* and *excreta*"—may be justly credited with having discovered the fact of "insensible perspiration," and must be respected as having, if indirectly, started that complex series of investigations which have slowly built, and are still building up, the "physiology of material exchange, in which," adds Professor Luciani, "the work of the youngest and most energetic physiologists is to-day most largely employed." The whole monograph—for such it really is—is animated by the most generous belief in humanity, showing itself in an almost limitless hope. As to Italy's contribution to the "grand result," he remarks, however, in somewhat melancholy strain, on the poverty which deprives her of the "mezzi necessari" so richly furnished to the English-speaking or German investigator.

Professor Giulio Fano, as our readers are aware, was brought from the Physiological chair in the University of Genoa to fill the same post vacated by Luciani in the Istituto di Studi Superiori in Florence, and the "prolusione" under notice was delivered on entering on his new office. Choosing as his theme the relations of physiology with chemistry and morphology, he discusses in illustration the genesis and growth of the doctrine of inhibition, and reviews the work of his predecessors in that field—the brothers Weber, Schiff, Bernard, Romanes, Lauder Brunton, Hering, and others—while enlarging on the independent view already taken by himself in his "Chimismo Respiratorio negli Animali e nelle Piante." The lecture as now revised and enriched with a running bibliography is well worth perusal as the production of one who is not only a physicist but a physiologist, and not only a physiologist but a physician.

LIBRARY TABLE.

Organic Chemistry. Part II. By W. H. PERKIN, jun., Ph.D., F.R.S., and F. STANLEY KIPPING, Ph.D., D.Sc. Lond. London and Edinburgh: W. and R. Chambers, Limited. 1895.—Despite the great number of "organic" text-books which exist we welcome the publication of the one before us, since not only are the authors well-known and valued contributors to our knowledge of organic chemistry, but they evidently possess the faculty of telling a very complex story with that simplicity and clearness which make an introductory work of real educational value. Drs. Perkin and Kipping deserve praise also for the admirable manner in which they have managed to include in the compass of two comparatively small text-books[1] so extensive a range of subjects as is presented in the enormously wide and ever-widening field of organic chemistry. Part II. (the present volume), dealing with the Aromatic Compounds, opens with an account of coal tar and its treatment, which is naturally followed by a description of the preparation and properties of benzene and the discussion of its constitution in the light of facts previously dealt with. On the subject of constitution the authors speak with evident authority and experience. When we add that the succeeding chapters include such subjects as the dyes, alkaloids (a chapter, by-the-bye, which should be of service to medical students), and stereo-isomerism, it will be understood how fairly comprehensive is this account for a book which is called introductory. We do not quite understand why the book has been issued in two separate parts, since together they would have made up a volume of no bulkier dimensions than the average modern text-book, while in that form the work would certainly have been more handy and convenient.

Tables and Directions for Qualitative Chemical Analysis. By M. M. PATTISON MUIR, M.A., Fellow and Prælector of Gonville and Caius College, Cambridge. London: Longmans, Green, and Co. 1895.—This little book embodies a scheme for the qualitative chemical analysis of moderately complex mixtures of salts; its sphere of usefulness is, therefore, necessarily limited. The author admits this when he

[1] Part I. was noticed in THE LANCET, Aug. 18th, 1894.

says that "the tables do not apply to the analysis of mixtures of salts, the reactions of some of which salts are greatly modified by the presence of other salts in the mixtures, nor do they apply to very complex mixtures, nor to mixtures containing salts of the rare elements." The methods for the separation and detection of metals and acids, so far as our own experience would show, and under the conditions, of course, just laid down, are reliable and should give satisfactory results in the hands of intelligent students. It is to be observed that there is a multiplicity of similar schemes published, each of which is designed to meet the requirements of a special course of study. Their value, therefore, as with the book before us, lies within very narrow limits. Analytical work knows no limits, and analytical charts are, figuratively speaking, of little value except in well-explored seas; to the general chemist they are useless, since he is constantly meeting with rocks not marked on the map; it is better and more scientific to depend upon a sound knowledge of the principles and facts of the science, and then a clear and unobstructed course is possible.

Sell's Directory of Registered Telegraphic Addresses. London: Henry Sell. 1895.—To all men of business and to the great majority of their customers this volume is well-nigh a necessity. The extent of the field which it covers will sufficiently appear from the fact that the list of special telegraphic addresses of houses in London alone fills 295 large pages; the corresponding information for the provinces occupies nearly twice as much space. The accuracy of all these particulars is assured by their being taken from lists supplied by the authority of the Postmaster-General. Telephone numbers have now for the first time been included in the list. The National Telephone Company have officially authorised the insertion of their numbers, and those of other companies are distinguished by an explanatory word. The too-late list of additions and alterations is brought well up to date, being corrected for London to Dec. 31st, and for the provinces to Nov. 11th, 1894. A useful addition is a list of railway stations at which public telegraphic business is transacted, and maps of England, Scotland, and the Manchester Ship Canal.

James Beart Simonds: an Autobiography. London: Adlard and Son. 1894.—This little work is of the utmost interest to the veterinary profession, and in many respects deserves the attention of medical men. After a short account of his family connexions Professor Simonds describes his gaining, in 1829, the diploma of the Veterinary College, with which the whole of his subsequent distinguished career was bound up. His first opportunity for investigation of a new disease appears to have been on the occasion of the original introduction of foot-and-mouth disease into England in 1839. In 1842 he was appointed professor of cattle pathology and chief veterinary surgeon to the College, which was in 1844 incorporated by Charter as the Royal College of Veterinary Surgeons. The author describes in a most entertaining fashion the first invasions of sheep-pox, anthrax, pleuro-pneumonia, and cattle plague, and records with obvious satisfaction his appointment to be Principal of the College—an office which he held from 1872 to 1881, when age and ill-health induced him to retire from the official duties which he had performed so long and so worthily.

The Castle Line Atlas of South Africa. London: Donald Currie and Co. 1895.—All the sixteen maps of this series are admirably executed and coloured. Six of them are on the scale of either forty or sixty miles to the inch, whereby a great number of names of places are legibly inserted. There are also maps of Cape Town, Durban, Port Elizabeth, Pretoria, and Johannesburg—of course, on a much larger scale. The South African Republic, Matabeleland, Mashonaland, and the Witwatersrand Goldfields are shown in much detail. The usefulness of the atlas is greatly enhanced by about fifty preliminary pages of descriptive and historical matter.

The Phonographic Record of Clinical Teaching and Medical Science. No. 3. Edited by Dr. GOWERS and Dr. J. TAYLOR. London: Sir I. Pitman and Sons. Price 6*d.*—This journal, the organ of the Society of Medical Phonographers, will in future be published monthly instead of quarterly, except during the three vacation months of April, August, and September. It should prove useful in promoting the use of shorthand among medical students and practitioners, and enable them at the same time to increase the knowledge of their profession. Hitherto only medicine in its clinical aspect has been dealt with, and the present issue contains a lecture on Lateral Curvature of the Spine by Mr. Christopher Heath, and the concluding portion of Dr. Gowers' lecture on the Treatment of Infantile Paralysis; but the scope of the "Record" will be widened in later numbers. The facility for the interchange of thought which shorthand affords has long been taken advantage of by phonographers by means of what is known as the "Ever-circulator"—that is, a manuscript passing from hand to hand through the post in which is discussed some subject on which each member comments before posting to the next recipient. Each member has an opportunity of seeing the completed manuscript, and under able editorship the plan should prove especially useful to the medical student. Mr. Norman Porritt of Huddersfield, the first medical practitioner to advocate in print the use of shorthand in medicine, has undertaken the organisation of such a department of the society; and should a medical "Evercirculator" be started Dr. Gowers has promised to contribute a series of articles on the general subject of Examination for Life Assurance. The size of the "Record" is eminently suited for the pocket and the shorthand is excellently lithographed. The admixture of elementary outlines with advanced contractions is, however, rather incongruous and not at all likely to lead to that uniformity of outline which is so desirable if use of the "winged art" is to become universal among the profession. Upon the whole the editors are to be congratulated upon the general get up of the journal of the Society of Medical Phonographers.

How to Live in Tropical Africa. By JOHN MURRAY, M.D. London: George Philip and Son.—That this book appears at a happy time no one will deny. The new field for the reception of our surplus population which has been opened up by the toils and heroism of Rhodes, Jameson, Johnson, and Stanley will probably not yield all its treasures to the colonist without some toll from the settler in addition to that which it has already exacted from its conquerors. The aim of Dr. Murray in writing this book is evidently to show that with proper attention to hygiene, a cleanly life, and the use of common sense a man may reasonably hope to either escape the dangers of tropical fevers altogether, or, at any rate, to mitigate them. The book opens with two chapters on Climatology, and the rest of it is practically taken up with the malarial problem. The precautionary measures as to sites for houses, camps, &c. are all thoroughly gone into, as well as the etiology and the recognition of the malarial parasite. Directions for treatment are given and are plainly set forth so as to be of use to the uninstructed layman. The chapters on Food, Drink, and Clothing are all excellent, and from a fair experience of rough travelling in other parts of the world we can commend Dr. Murray's unpretentious little work to all those whose lot shall lie in the fair ground of New Africa.

MEDICAL MAGISTRATE.—Mr. John V. Laverick, L.R.C.P. Lond., L.F.P.S. Glas., L.R.C.P. Edin., has been placed on the Commission of the Peace for the North Riding of Yorkshire, by virtue of his election as chairman of the district council of Hinderwell.

New Inventions.

GAITER SUPPORT FOR FLATFOOT AND TALIPES VALGUS.

THIS support is one which I have used occasionally for some years in cases of flatfoot and talipes valgus. It consists of a gaiter of black kid reaching from the tubercle of the tibia to the malleoli, and lacing in front. Running the entire length of the inner side of the gaiter, and sewn into it, is a steel bar, from one-half to three-quarters of an inch in width. To the upper part of this bar a buckle is attached; a piece of webbing passes round the ankle to the outer side, where one end is buttoned to the main band, and is continued under the hollow of the sole to the inner side, where a piece of stout black elastic is attached to it, and to the other end of the elastic a black kid strap, which is then buckled at the top of the gaiter. By this strap the elastic and webbing can be drawn up to the required pitch and altered at will. The advantages of this support are—(1) it can be fitted to any leg, and will keep its place however thin the leg may be; (2) the boots can be changed or slippers worn without interfering with it; (3) it is neat, and on casual observation looks like a high French boot; and (4) in suitable cases it is very comfortable to the patient, the elastic acting as an artificial calcaneo-scaphoid ligament. The cases in which it will, I think, be found specially useful are those of flatfoot combined with a valgous condition, such as we find in delicate or rachitic children. It is also useful in some older patients, but in many the surgical sole answers all requirements. Cases of valgus depending on spasm of the peronei I find do better with the inner part of the sole and heel of the boot raised, the above appliance and also the surgical sole appearing in some cases to increase the spasm. The support has been made for me by Messrs. Ferris and Co. of Bristol.

FIG. 1.

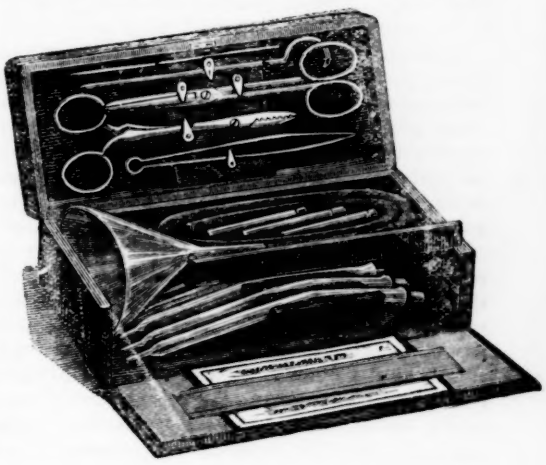
FIG. 2.

W. J. PENNY, F.R.C.S. Eng.
Clifton

NEW TRANSFUSION APPARATUS.

THE apology for introducing this new transfusion apparatus to the profession is that if ever transfusion is to become a widely used means of saving life (threatened by hæmorrhage) and alleviating the supervening distressing symptoms of certain toxic conditions of the blood—e.g., diabetes, uræmia, and certain poisons—the apparatus for its performance must be simple, compact, and ready at hand. The many transfusion apparatus at present known to the profession, such as Professor Annandale's and Dr. Herbert Spencer's, are in themselves most excellent, but they are rarely ready at hand in an emergency, both on account of their size and complicated mechanism. A practitioner cannot be expected always to go about with a Spencer's transfusion apparatus, and should the necessity for transfusion be indicated the patient is possibly dead before the apparatus can be obtained. The advantages claimed for this apparatus by Dr. L. J. G. Carré, who suggested it, are: 1. Its absolute simplicity. Transfusion can be quite readily performed absolutely single-handed. He informs us that he has done so in a case of excessive collapse after severe post-partum hæmorrhage. 2. Its compactness. Everything that can possibly be required for the safe and successful performance of the operation is immediately at hand. 3. The small size of the complete case, so that it is possible that it may serve as one of the invariable contents of the practitioner's midwifery bag or the surgeon's operating bag. A transfusion apparatus is always required on an emergency, and generally when the practitioner is least prepared. In this apparatus he may always feel that he has with him often the last resource which will enable him to save life. Spencer's transfusion bottle is essentially a hospital apparatus, this is an apparatus rather adapted for the use of the private practitioner.

The case, which measures 2½ in. by 3½ in. by 7½ in., is lined with a special leather, which will wash, so that the whole apparatus can be kept aseptic. Comprised in the case are all the instruments necessary for the performance of saline infusion—a metal-handled scalpel, a combined director and aneurysm needle, a pair of scissors, a pair of Spencer Wells forceps, a pair of dressing forceps, and silk. The case also contains six small glass tubes, each holding a drachm of pure chloride of sodium. In addition, there is a small celluloid funnel, attached to which is a piece of flexible rubber tube, which does not kink or collapse, this, again, ending in a glass cannula bent at an angle of 30°, bulbous at one end, over which the rubber tube fits tightly, tapering at the other, so that a vein is easily entered. The cannulas are supplied in three sizes. The apparatus is a very neat one, and should find a place amongst the instruments kept ready for emergencies in hospitals and in the midwifery bag of many practitioners. An advantage is undoubtedly possessed by having all the instruments together; the majority, however, are contained in every surgeon's dressing case, and greater call would probably be made for a small bag containing the celluloid funnel and its tubes and the chloride of sodium tubes. The apparatus is made by Messrs. C. Wright and Co., 108, New Bond-street, W.



THE LANCET.

LONDON: SATURDAY, FEBRUARY 16, 1895.

THE reissue of a memorandum[1] on isolation hospitals by the medical officer of the Local Government Board acquires some importance by reason of a greater amplification than heretofore of the conditions under which sanitary authorities may contemplate the erection of hospitals for the reception of patients suffering from small-pox. Apart from this the memorandum has undergone but little change. Its wording has been made to meet the provisions of the legislation of last session, the document being addressed to the new district councils, and the extremely useful plans by which it is illustrated have been slightly modified, but otherwise it is essentially the same document as heretofore. The small-pox question, however, deserves attention.

On the issue some thirteen years ago of Mr. POWER'S well-known report on the diffusion of small-pox amongst the population resident around one of the small-pox hospitals of the Metropolitan Asylums Board the question of this diffusion was regarded as of such importance that a Royal Commission was appointed to inquire into the whole subject. Amongst the conclusions at which that Commission arrived we would recall the following: "That by some means or other the Asylums' hospitals, in their present shape, cause an increase of small-pox in their neighbourhoods appears to us clearly established..." and "It is evidently of paramount importance that the areas of small-pox wards, as well as their administration, should be rigorously separated from those of fever hospitals, and further that their construction should be such as to reduce within the smallest limits the chance of spreading infection."

It is, however, impossible to read that report without being convinced that the Commission were, as a body, disinclined to believe that the mischief done by small-pox hospitals was produced otherwise than by means of personal communications between the hospitals and the outside world, and their attitude in this direction endorsed the contention of a number of the witnesses who had appeared before them, notably the representatives of the Metropolitan Asylums Board. The latter body, acting on the conclusion they had maintained in this matter, soon set themselves to work in the determination to put an end to the spread of small-pox from their institutions by remodelling their administration and by laying down and enforcing regulations with a stringency and at a cost that could hardly have been effected by a body less powerful and less wealthy in the financial and other resources on which they could rely to carry out their decisions. But, unfortunately, small-pox still went on spreading around their hospitals as it had done before; and not only so, but the rate of incidence of the disease on the surrounding communities was regulated as formerly by the differing proximity of the inhabitants to the small-pox hospitals. Taking the total results over a series of eight years beginning in 1877, and including some half dozen different periods of small-pox prevalence in London, it was found that the percentage of houses round the Fulham Small-pox Hospital in which small-pox had appeared was as follows: 30·1 within a quarter of a mile, 14·5 between a quarter and a half mile, 9·5 between a half mile and three-quarters, and 4·6 between three-quarters of a mile and one mile.

It was on the repetition of such results in the later portion of the period referred to that the Asylums Board evidently found it necessary by a series of stages to discontinue the attempt to treat small-pox in London, and the establishments down the Thames and near Dartford were the ultimate results of the decisions arrived at. And this change of procedure revealed in its results another piece of experience bearing upon the influence of small-pox hospitals, not only as diffusing infection, but of ensuring an increased frequency of small-pox epidemics by reason of the frequency of their operations in collecting together at one or more centres the occasional cases of that disease. In this way there came about a recurring concentration of the infection under circumstances that must now be regarded as often tending to the production of a poison having a special potency for spread. In fact, whereas during the sixteen years' existence in London of the Asylums Board's small-pox hospitals the death-rate for small-pox was extremely high and outbursts were frequent, it so happens that since those centres of small-pox aggregation in the metropolis have been abandoned the death-rate has been trivial in comparison with the previous one.

The experience of the last three years has tended strongly to confirm the opinion that, whatever authorities may be able to do, there are conditions under which small-pox hospitals become a distinct danger to surrounding communities. Those who concur in this view not only increase constantly in number, but they include the main bulk of investigators of repute and acknowledged standing. Some, indeed, whilst apparently accepting the conclusion, have sought to show that the distance at which diffusion of small-pox takes place is much more limited than many have supposed. Thus Dr. MATTHEWS of the Gore Farm Hospital, reporting on a single year's experience of a fever hospital, together with an asylum and schools, all of which lie about 1000 feet from a small-pox hospital, states that because no one to his knowledge contracted small-pox in any of the institutions in question "there seems ..... sufficient evidence from this experience for assuming that the diffusion of small-pox through the air does not extend to a distance of 1000 feet." Not a word is said as to the condition of the school inmates as regards vaccination or as to the proportion of convalescents to total small-pox cases. The experience, even if vaccination and convalescence be ignored, is a solitary one, limited to a comparatively brief period; and it is negative. As such it will carry conviction to very few minds. It is also quite clear that any such view does not weigh with the authorities at Whitehall; for after a long period, in which evidence had been accumulating on the subject, they now lay down the following rules, which, though put in the form of advice, will

[1] On the Provision of Isolation Hospital Accommodation by Local Authorities, with plans. 1895. Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Dublin. Price 1d.

evidently serve for the future to govern the decision of that Board in cases where their sanction is required for the erection of small-pox hospitals. "A local authority should not contemplate the erection of a small-pox hospital—1st, on any site where it would have within a quarter of a mile of it as a centre either a hospital, whether for infectious diseases or not, or a workhouse, or any similar establishment, or a population of 150–200 persons; 2nd, on any site where it would have within half a mile of it as a centre a population of 500–600 persons, whether in one or more institutions or in dwelling-houses." These conditions, it is specially stated, are laid down, not by way of indicating that the distances specified represent the limits of small-pox diffusion, or take cognisance of differing qualities of small-pox for spread in different epidemic periods, but merely "with a view of lessening the risk of infection." And a further paragraph accentuates the difficulty which is felt in attempting to lay down any general rule that shall cover all circumstances affecting different classes of communities, for it is added: "It must be understood that even where the above conditions are strictly fulfilled there may be circumstances under which the erection of a small-pox hospital should not be contemplated. Cases in which there is any considerable collection of inhabitants just beyond the half-mile zone should always call for special consideration."

Incidentally the memorandum indicates that the attempts which have been made by certain authorities to comply with the recommendation embodied in one of the conclusions of the Royal Commission we have quoted, as to reducing "within the smallest limits the chance of spreading infection" from small-pox hospitals, have not yet been successful. The complete combustion of all out-going air from such hospitals is a matter of greater difficulty than had evidently been contemplated by the Commission.

IT is said by scoffers that if it were not for the unfailing variety of our weather we should have no subject of conversation. This estimate of our social weaknesses is perhaps somewhat unfair, but the fact remains that (at the present time, at any rate) the weather is the subject which is uppermost in most people's minds. We cannot wonder at this if we consider how, in a machine so highly organised as our complex modern life has become, the stoppage of one little wheel throws everything out of gear, and when we think that for eighteen consecutive nights the temperature at Greenwich has never been above freezing point, and frequently much below that point, it is easy to picture the common dangers to which this exceptionally long-continued frost may give rise.

As our household surroundings and the thousand appliances which minister to our daily life grow more and more luxurious and complicated, so we must expect any interference of the conditions under which they act to be accompanied with a proportionate amount of disturbance. Take, for instance, the supply of the first necessary of life—water. We now consider ourselves badly off if at some three separate points in a house we cannot at once command a full supply of hot and cold water by simply turning a tap. Having finished with the water we open a valve and it disappears, how or whither most people never take the trouble to inquire. Our ancestors, who lived through winters quite as cold as the present, were naturally not nearly so much upset, inasmuch as the balance of their lives was not nearly so delicately adjusted. In the first place, they were not so particular about their ablutions, and in the second, always having been accustomed to go to the spring or the well it made very little difference whether they had to break a layer of ice or simply draw their household supplies in the ordinary way. But not only are we moderns inconvenienced, but many are practically living with what is equivalent to a charge of dynamite in the basement. It is needless here to go into the mechanism of the explosion of hot water circulating boilers, but a glance at any daily paper will show how real and how widespread is the danger. Frozen soil-pipes, again, are an obvious source of danger. The inconvenience need not be dwelt upon of having no escape for domestic sewage, but the after-effects of a prolonged block to the soil-pipes may not only be expensive of remedy, but seriously dangerous to health. As for the cold water service, we doubt not that when the thaw comes the old tale will be repeated, and flooded houses, with their accompanying evils of damp rooms, broken-down ceilings, plumbers, rheumatism, and other misfortunes, will be as common as in 1855, when LEECH drew his inimitable pictures of the heroic struggles of the BRIGGS family with the burst pipes.

Let us turn now from these effects of a frost, which, disastrous though they be, are to some extent preventable by the exercise of sense and supervision, and which, if not preventable, are endurable, to the effects upon the health of the population. A graver picture presents itself. Men must work, and women too, but it is surely a grave reflection upon a community that omnibus drivers and conductors should have to work for some sixteen hours without relief in a temperature like the present, and that no less than five have died from the cold, of whom one was found dead on his box. Upon the aged, the poor, and the very young the extreme lowness of the temperature tells most fatally, and when in addition to the cold a gale blows, any man or animal exposed without shelter runs a grave risk of death. From every part of the country, from the Channel to the north of Scotland, we hear of sailors frozen in the rigging, wayfarers lost on high roads and lonely moors; trains are snowed up with passengers and freight for days; and in one case the wild deer came down from their bleak forests and crowded among the passengers who had gathered round the engine to share in the warmth. Now it is quite evident that we cannot alter the weather, but we can mitigate its consequences by due attention to physical and physiological laws. For accidents to boilers and pipes the preventive measures to be applied are in some cases perfectly well known, and these it is the householder's fault if he does not apply. With regard to food and clothing, the two questions may be summed up in two words—fat and wool. All dwellers in cold countries consume large quantities of fat, and it is wel to remember that by taking fat in some digestible shape, such as cream, butter, or small quantities of cod-liver oil, our power of resisting cold is much increased. The days have gone by when delicate women went about in the depth of winter in thin cotton

dresses with only one under-garment; but even now there is much need for the exercise of common sense in the change from morning to evening dress. Some woollen garment, however thin, should always be worn next the skin, clothing should be as loose as possible, and the fact that two thin things are warmer than one thick should be always borne in mind. If these precautions are taken those who have the means to take them may reasonably hope to come to no harm in the frost. But let us not forget the sufferings of those poor who have neither food, fire, nor clothing. The cold, so cruel to the young and the sick, is especially cruel to the under-fed; and all those of our poorer fellow-creatures whose vocations compel them to expose themselves for long hours to the bitter weather with insufficient clothing and insufficient nourishment should be made the subjects of our practical sympathy. They deserve it and require it.

One great difficulty in the way of hospital reform in London is the isolation of the institutions. They act apart and somewhat competitively. Each has to fight for its own hand and in its own way. Each has its own friends and is dependent to a great extent on the idiosyncrasies of its own secretary. Each has its own methods and its own views. The competition which obtains between hospitals has reference not only to appeals for help from the benevolent public, but to the number of patients attended. When the isolation of such institutions is considered, and their ever-increasing number, it will be seen how difficult it is to exercise any control over them. Their voluntary character, their peculiar glory, for the purposes of reform is apt to be even a disadvantage. For these reasons any central body with benevolent purposes which would take them all into its purview and care ought to be a great blessing, and its suggestions ought to be received with gratitude. The Charity Organisation Society therefore did good service by organising a meeting on Monday last for discussing the formation of such a board.

It is well known that such a recommendation was the principal outcome of the deliberations of the Select Committee of the House of Lords in 1889 (Lord SANDHURST'S Committee), and that for some reason or other the proposal came to naught. The hospitals themselves have not welcomed the idea, and for some time past it has been in abeyance. Colonel MONTEFIORE, in the paper which he read at the meeting on Monday, gave a history of the proposal and its fate, and in an elaborate survey of the position of hospitals gave weighty reasons why in some form the suggestion should be accepted by the London hospitals. His account of the out-patient system with its 1,200,000 patients, exclusive of the casual system, (which is rapidly growing into large proportions), was almost appalling, whether we consider the interest of the patients or that of medical practitioners who begin to see in hospitals a sort of conspiracy to ruin general practice. Only the grossest abuse of hospitals on the part of the public explains why practitioners entertain such views of institutions to which they owe so much in the way of instruction. The medical speakers who took part in the discussion said nothing in depreciation of hospitals when restricted to the reception of proper cases and in proper numbers. Sir JOHN ERICHSEN, in a dignified and thoughtful speech, touched with great judgment on the question of pay wards. He entirely disapproved of these as part of the system of an ordinary hospital. He recognised that there was a class needing the accommodation of a pay hospital, and that such hospitals or homes should be provided on ordinary commercial principles, and should in their charges meet the requirements of the clerk or other person who in emergencies might not be able to command at home the nursing and accommodation necessary for his case. Though the monstrous proportions of the out-patient department and the tendency to adopt the pay system were the principal evils dwelt on by the speakers on Monday, it was not denied that there were others—that some medical charities are excessive in their cost, that in-patients are admitted who can well afford to pay, and that the system of accounts is far from uniform. Colonel MONTEFIORE did not speak pessimistically of the finances of hospitals; but he showed the extreme uncertainty of legacies as a means of income, while it is on them that hospitals seem to depend more than they do on annual subscriptions. Moreover, legacies are bequeathed with so little system and so capriciously as to enrich some hospitals and leave others impecunious.

The promoters of the meeting were probably well advised in being content with a general discussion and in not pressing conclusions to the length of a resolution in favour of a central board. This was done out of consideration to hospital authorities, and wisely done. But these authorities on their part will do well to take note of this meeting as an index of growing public opinion in favour, not only of the retention of voluntary hospitals, but also of their being restricted to the relief of persons gravely affected with disease and unable to command medical advice and comforts proportionate to their need. The creation of a central board would in no way injure well-conducted hospitals. The chairman of one hospital and the chairman of the Hospital Saturday Fund thought there would be difficulty in defining the duties and functions of such a board. But it will be to the discredit of the able and experienced business men who administer our hospitals if they cannot agree on some general functions—friendly and advisory—which would tend to support our much-threatened hospital system.

Annotations.

"Ne quid nimis."

THE DUKE OF CONNAUGHT ON ST. THOMAS'S HOSPITAL.

PRACTISED orators to a certain extent all of our Royal Family tend to become, but it required more than verbal facility to speak as sympathetically and as accurately as His Royal Highness the Duke of Connaught did at the Mansion House on Wednesday last, when appealing to the public for £100,000 to place St. Thomas's Hospital, of which institution His Royal Highness is the president, on a securer financial basis. It required an intimate acquaintance with the subject and a deep sympathy with the needs of the suffering poor to speak at once so broadly and so precisely, and we cannot doubt that the practical outcome of the appeal will be substantial, although—to put it colloquially—

times are very hard. During the whole of the period the opportunities that the institution has of doing good have been seriously crippled by a lack of funds, and the authorities now find themselves face to face with the following crucial question: How best can they help the sick of an enormously increasing neighbourhood when their own funds compel them to offer a rapidly decreasing accommodation. For there can be no doubt that if substantial aid is not forthcoming yet more wards will have to be closed. His Royal Highness pointed out that it was through no fault of the hospital authorities that their expenditure had grown while their income had dropped. The vast spread of South London threw an ever acuter strain upon their resources, while agricultural depression lessened their income, both directly by depreciating the hospital property and indirectly by affecting their subscription list. Many and many wide and vexed questions in hospital constitution and hospital administration in the metropolis were touched upon, to which we do not at the present moment intend to make reference, considering that we shall most efficaciously back His Royal Highness's appeal by simply summing up the immediate situation. St. Thomas's Hospital is allowed on all hands to be doing splendid charitable work, and it cannot continue to do so unless the public will come to its immediate rescue. This we hope earnestly they will do, and in such a bountiful manner that this great charity will be able to pursue its beneficent life, and, by closing its pay wards, pursue it on proper lines—those of pure and undefiled charity.

THE PATHOLOGY OF PNEUMONIA.

FACT and hypothesis were happily blended in the communications made at the last meeting of the Pathological Society by Dr. Washbourn and Dr. Wright bearing on the pathology of acute lobar pneumonia. Dr. Washbourn rigidly confined himself to observations upon the microbe that has been proved to be the almost constant concomitant of this disease; whilst Dr. Wright, in his suggestive reasonings from analogy, put forward sundry explanations of the remarkable phenomena that characterise it. The bacteriological history of acute pneumonia is instructive, since in the first instance the bacillus discovered by Friedländer was thought to be—and the view received support from many sides—the pathogenic organism responsible for exciting it. But Dr. Washbourn's statement that the real "pneumococcus" is that discovered by Fraenkel and Talamon, and studied by Sternberg and Weichselbaum and many others, is in accord with general opinion, although we note in a recently published text-book of high standing in this country the pneumonic *rôle* is still assigned to the bacillus of Friedländer. Dr. Washbourn pointed out that the occurrence of the pneumococcus in healthy secretions did not militate against its pathogenic property, instancing diphtheria as an example of this. Now although practically the same conclusion was arrived at some years ago by Dr. Sternberg, it must be admitted that the fact enlarges the view of the microbic origin of disease. It seems to demand the intervention of a second factor, disposing the body to the action of the organisms. Indeed, for pneumonia such a factor has been assumed in the phrase "lowered vital resistance," such as may be produced by cold or exhaustion, rendering the subject more vulnerable. Experimentation upon animals with regard to the pneumococcus has brought out many interesting facts as proving its relation to inflammatory processes in various tissues and organs; but it cannot fail to strike the clinical observer that the parts mostly attacked by inflammation after "pneumococcal" inoculation are not those which are prone to such lesion in the human disease. This was partly explained by Dr. Wright's statement that the pneumococcus had mainly a local action, and in acute pneumonia its entrance is obviously by the respiratory tract. The question of immunity and the allied subject of the use of "curative serum" has been studied experimentally in pneumococcus infection for some time, notably by Drs. G. and F. Klemperer of Munich; indeed, some of the earliest work on "antitoxins" was that done on the occasion in question by these observers. It is clear, however, that more requires to be proved before the practical application of such researches can be adopted. Moreover, in a self-limited disease like pneumonia it will be assuredly a difficult matter to determine whether the abatement of symptoms is due to the administration of serum from an immunised subject—e.g., the blister serum from one who has just passed through an attack—or to the natural termination of the process. Amongst the striking phenomena of this remarkable disease must be reckoned the occurrence of crisis and the reabsorption of the mass of exuded leucocytes, which convert the spongy tissue into a solid grey mass. Dr. Wright advanced an interesting explanation of the crisis when he compared it with the phenomena of spirillum fever. Crisis is denoted by a rapid fall in the excessive leucocytosis that precedes it, and this means the withdrawal of pneumococci from the blood; yet neither the height of the fever nor the degree of crisis is influenced by the amount of lung involved—i.e., of leucocytal emigration from the blood; nor do signs of resolution concur with those striking changes in the functions of the whole body which supervene at the crisis; nor finally, as Dr. Washbourn says, do the pneumococci exist to any marked extent in the blood. That the reabsorption—sometimes with great rapidity—of the large amount of nucleo-albumen of which exuded leucocytes are composed does not lead to intra-vascular thrombosis, in accordance with the late Dr. Wooldridge's beautiful demonstration, is remarkable, and was explained by Dr. Wright by assuming an equally rapid elimination by the urine, and in some cases, perhaps, by the bowels, of the absorbed material. It is well known, however, that the periods of crisis and that of commencing resolution are often those at which the need for free stimulation is most urgent; and we are far from saying that some of the deaths at this period of the disease attributed to cardiac failure may not really be due to cardiac thrombosis. On either view alcohol is indicated, and we may add that ammonia, another time-honoured remedy, would equally answer the indications, and that most physicians would rather trust to it than to citric acid to prevent the tendency to coagulation within the blood-vessels.

LIFE ASSURANCE SCHEMES.

Two life assurance schemes have been recently pressed upon public notice, one devised by an American the other by an English company, being the Mutual Life Assurance Company of New York and the Royal Exchange Assurance Company respectively. Of the ability of both companies to meet their obligations it is possible to speak with a large measure of confidence, for each is prudently managed and possessed of ample means. In this respect there is no need to choose between them. But the two plans are very distinct in character, and we cannot hesitate to give the preference from a professional point of view to the English scheme. The object of its originators has been to give as large an immediate return as possible upon the premium charged, and for this purpose the distant future is sacrificed to the near. That is to say, the Royal Exchange Company is prepared to issue policies at extraordinarily low rates of premium upon the condition that the remitted balance of the ordinary premium rate shall be represented by an accumulating debt chargeable against the policy monies when these fall due for payment. This growing debt

may probably have the effect of cancelling the assurance in the case of persons who live to extreme old age, so that the transaction really works out to a temporary assurance covering the working life-time, and the premium rate is proportionately light. The American scheme, on the other hand, reverses this process. During the first twenty years of what is—not very felicitously—called a debenture policy, part benefit only is enjoyed and even when death occurs one-half only of the sum assured becomes payable, the payment of the other half being deferred for twenty years upon payment in the interval by the company of interest upon the withheld balance at the rate of 5 per cent. Thus, in the English scheme the idea of life assurance properly so called prevails; in the American the prevailing idea is that of an investment. We have on previous occasions expressed the opinion that what a medical man needs to compass by means of a life assurance policy is mainly a protection to his dependents against the pecuniary consequences of his own premature decease. It is a grievous mistake to be led away by the prospect of personal advantage in the distant future from making the largest possible provision for the contingencies of the near future. We think, therefore, that medical men contemplating life assurance will do better to examine the Royal Exchange Company's prospectus than that put forward by the Mutual Assurance Company of New York, for the former is conceived in the spirit of a juster appreciation of what the assurer requires. The latter is eminently well adapted to produce a large accumulation of funds in the hands of the company's trustees, but that is an object in which the company's policy holders cannot be expected to take a very lively interest.

THE TEETH OF SIOUX INDIANS.

A RECENT pamphlet by Dr. Wilberforce Smith contains some interesting data relative to the teeth of ten Sioux Indians which he had the opportunity of examining at the time of the visit of the "Wild West" to London. The manner of investigation pursued by him was to count the teeth in pairs—for instance, the first permanent lower molar and its opposing tooth, the first permanent upper molar, would be considered one pair; when applied to the whole of the molar and premolar series the number of pairs would be ten (six molar and four premolar). Basing his observations upon this method he found that in five of the Indians under the age of twenty-two two had the pairs complete, the remaining three being two pairs short, due to the fact that the third molars had not erupted. Of five Indians between the ages of thirty-five and fifty, four had the pairs complete, the remaining one having two pairs missing due to the absence of the third molars. By way of contrast Dr. Wilberforce Smith records some observations upon the teeth of the average Londoner. In nineteen cases between the ages of twenty and twenty-one the number of pairs was found to be reduced to 2·50 in the molar series and to 2·53 in the premolar; while in twenty-two cases between the advanced ages the number of pairs was reduced to 1·12 in the molar region, the statistics of the premolar region not being recorded.

L'UNION MÉDICALE.

OUR admirable contemporary, *L'Union Médicale*, has inaugurated its entrance on fifty years of uninterrupted existence by some rather startling changes. For the future it will appear once a week only, instead of three times as formerly; but, on the other hand, although the number of pages of letterpress (twelve) remains the same the size is almost doubled, and there is a vast improvement, not only as regards type, but also in the quality of the paper used. The price, which used to be thirty-two francs per annum, making *L'Union Médicale* the most costly of all the Parisian medical journals, now becomes five francs, which certainly seems extremely moderate, as it brings the charge for a single copy down to something less than a penny. In the course of some remarks addressed to his readers before the transformation the Director, Professor L. G. Richelot, says: "The alterations which time has wrought in our scientific and professional habits have profoundly modified the material conditions of journalism as well as of its aspirations and tendencies. We no longer write with the same ink, we no longer chat in the same way with our readers, we are colder and more formal, less prone to discussion, criticism has given place to reporting *à outrance*, to ill-digested news." Professor Richelot nevertheless concludes that it is necessary to march with the times. "*L'Union Médicale* wishes to follow contemporaneous progress without, however, blindly obeying the mode," and hence the modifications in form and price. Considerable changes have also taken place in the editing department. Dr. H. Richardière is associated with Professor Richelot as director of the medical section of the journal. Each number is to contain a leading article dealing in turn with every branch of the profession. The reports of scientific societies are, it is stated, to be placed before the reader in a form that will prove attractive instead of after the usual cut-and-dried fashion. All questions concerning the dignity and the interests of medicine will, as heretofore, continue to be defended; and any work, French or foreign, which may possess real value will be thoroughly criticised and done justice to. The ardent desire of the direction is to evolve genuine medical journalism; to set forth facts scientifically and critically, but entirely in their own language and from their own point of view; and to, as far as possible, avoid producing pages of stenographic reportage bearing a close resemblance to an index catalogue. A bi-monthly *feuilleton* will still be a feature of the rejuvenated journal, and a review of hygienic affairs will, as usual, be entrusted to the competent hands of M. Jules Rochard. The responsible, but not easily defined, duties of *rédacteur-en-chef* continue to be performed by M. Eugène Rochard, who has occupied the post for the last two years. In conclusion, the Direction address a pious souvenir to the original founders: Amédée Latour, Richelot, and Aubert Roche, in whose footsteps they hope to tread.

"DANGERS IN THE POCKET."

IN THE LANCET of Jan 26th we published a brief note on the dangers likely to be incurred by carrying certain articles of popular request in the same pocket. The details of the particular case to which we referred have since been reported to us by Dr. W. Davidson, and we are glad to note that the result of the "pocket explosion" has not been so serious as it might have been. On the morning of Saturday, Jan. 19th, Dr. Davidson was called to see the patient and found him suffering from an extensive burn of the inner surface of the left thigh, with another burn of smaller extent, but more severe, extending over the thenar half of the left palm. The history of the injury elicited was that the patient had been suffering from sore-throat and had purchased some chlorate of potash lozenges. These he was carrying in his trousers pocket rolled up in a piece of paper. One of the lozenges was loose in the pocket, which also contained a box of safety matches. While moving about he suddenly heard a noise like the hissing of a squib before the detonation, and saw smoke issuing from his pocket, which he grasped from the outside thinking to smother the fire. An explosion followed which blew out the whole of the front of the trousers-leg. There was no loud noise, only an exaggeration of the hissing noise heard at first, but there was a considerable volume of flame. What had evidently happened was that the loose lozenge, by rubbing on the composition on the outside of the box of safety matches, had become ignited and that the rest of the lozenges had been exploded by it, causing

the chief explosion. On the room being searched the remains of several of the lozenges were found. They had been reduced to about a third of their normal size and the outside of them appeared scorched. The patient had fully one ounce of the lozenges in his pocket at the time of the occurrence. On Jan. 25th the wounds were healing rapidly and were almost entirely covered with new epidermis.

THE PAY SYSTEM AT THE GREAT NORTHERN CENTRAL HOSPITAL.

WE understand that Dr. Glover has given notice of the following motion for consideration at the annual meeting of the governors of the Great Northern Central Hospital on Friday, Feb. 22nd, at 5 P.M.:—"That this meeting of governors of the Great Northern Central Hospital regrets the recent changes in the administration of the hospital by which pay patients have been admitted to its wards, to be attended gratuitously by the honorary staff, is of opinion that such a system is not likely to conduce to the welfare of the hospital or the advantage of the poor for whom such institutions exist, and should without further delay be abandoned."

FROZEN WATERCLOSETS.

THE discomforts, not to say dangers, which attend the freezing of water-pipes are alone hard enough to endure; but when the frost is so severe and stays so long with us as to lead to the stoppage of soil-pipes we are brought face to face with a new evil which demands very prompt and careful action. We learn that in many houses in the suburbs of London this has occurred, and that in many cases the occupiers have been obliged to carry the excreta into the garden or to avail themselves of the premises of an obliging and more fortunate neighbour. When the thaw does set in the consequence of this condition of things may be very serious, and those who are unfortunate enough to be in such an unenviable position should have a stock of some efficient disinfectant at hand. It would be a proper and useful preliminary precaution to place a quantity of disinfecting liquid, such as carbolic acid, in the pan of the frozen closet. The public health authorities might, we suggest, help the people in this matter, so that pestilence and disease may not be counted amongst the contingencies which prolonged frost brings in its train.

LIFEBOAT EFFICIENCY.

FROM time to time we have directed attention to the work which has been carried on by the National Lifeboat Institution with so much unselfish heroism, and, happily, with no small measure of success, during the past seventy years. Every winter, every storm, adds to the lustre of a record which our spoken praise may explain, but cannot glorify. Lives have, indeed, been saved around our coasts by other more or less efficient agencies; to all such we would allow due honour; nor is the Institution already mentioned less free in its commendation of these allies. Nevertheless, with all our admiration of the gallant disregard of danger shown by fishermen and others engaged in this generous duty, we cannot but associate the work of rescue with a system which has been above all other agencies distinguished in it. Of course, there is no organisation which is perfect, and the Lifeboat Institution is doubtless governed by this general rule. Its boats, we are told, are constructed on antiquated and even dangerous models; they owe their utility largely to the aid of steam-tugs, and much of the fame commonly associated with their use must be accorded to the rocket apparatus. All this is partly true; but still the fact remains that neither steam-tug nor rocket gear can, except under certain conditions, be enabled to reach and to save the living freight of shipwrecked vessels. This is, in fact, the peculiar faculty of an efficient boat service. Whether more might not be done than is now done to increase the present degree of efficiency is another and an important question. Improvements in boats and in management may very well be possible. Had the timbers of the Ramsgate boat which was injured the other day been somewhat stouter she might have escaped with a mere submersion. So with other like matters of detail. When, again, we come to structural design we touch a vital matter. In this respect it would seem clear that the lifeboat has reached an important stage in its evolution. Steam, which has altered so greatly all our means of transport, is here also asserting its superiority. The idea of a steam lifeboat is probably not a new one. Of late it appears to have ripened in a most practical form in the construction of a hydraulic steam lifeboat independent of paddles, screws, and even rudder, capable of considerable speed in any kind of weather, of lateral movement which enables her to maintain her position safely beside a wreck, and commodious enough to convey thirty persons besides her crew. Such a craft certainly marks a great advance in construction. She would as certainly cost much more than an ordinary lifeboat, and this fact will doubtless postpone for some time her adoption into the life-saving service. There appears no reason, however, why the advantages claimed for her should not be more fully tested in actual use than they have been, and we doubt not she will ere long find her place at some of the more dangerous of our coast stations. It will be long before the rowboats which have done such excellent work are quite superseded. A difficulty in the way of their proposed successors, it seems to us, will be found in the management of the steam apparatus in case a vessel of this type should capsize. If this obstacle be overcome steam launches of the new pattern may very probably become the lifeboats of the future.

TUMOUR OF THE SPINAL CORD.

TWO cases of considerable interest have lately been read before the New York Neurological Society. The first, reported in the *Medical News* of Jan. 12th by Drs. Holt and Herter, was a case of "Rapid Gliosis of the Spinal Cord." The patient was a child aged one year with a good family history, in whom, three months before coming under observation, a weakness was noticed in the right arm and hand, and the head began to droop forward. The motor paralysis in the right arm gradually increased, and finally there was complete loss of power in both arms and in the shoulder muscles, with atrophy. The muscles of the neck were exceedingly rigid and the head was carried stiffly slightly in advance of the normal position, with the face looking directly forwards. There seemed to be some loss of power in the legs. The knee-jerks were exaggerated. Ankle-clonus was present. There was considerable dyspnœa. The temperature showed irregular daily variations ranging from 100° to 105° F., and even higher. There was occasional vomiting. The pupils were equal, normal in size, and responsive to light. There was partial analgesia of the body below the arms. After the lapse of a month slight strabismus was noticed, and the head was rolled continuously from side to side. At times there was marked cyanosis, the respiration ranging from 32 to 52 per minute; the temperature rose to 106° and death took place. Upon post-mortem examination a greyish projecting mass was found occupying almost the entire right side of the medulla and a large portion of the left side. The medulla was considerably enlarged from before backwards, and from side to side. There was also considerable enlargement of the cord as far down as the eighth cervical segment, and from this point to the sixth dorsal there was some enlargement; below this the cord appeared to be

normal. Histological examination revealed a typical gliomatous structure, which involved to a greater or less extent the medulla and almost the entire cord. The second case was recorded by Drs. van Gilson and Fisher (*Medical News*, Jan. 19th). The patient was a man aged sixty-one years, with a negative family history, but a personal history of syphilis at the age of twenty-five, who for about six months before coming under observation had suffered from pronounced dizziness on standing erect. There was diplopia of three years' duration. For eight months there had been retention of urine and frequent severe attacks of diarrhœa. There was no weakness or ataxia of the upper extremities, but progressive loss of power in the lower of about one year's standing. There was a feeling of numbness from the waist downwards. Coördination in the lower extremities was impaired, the patient being unable to stand erect and falling to the floor unless supported. The gait was markedly ataxic. There was a gradual loss of sensation to touch and pain in both feet. The knee-jerk on the right side was absent, but was present on the left. Finally a large bedsore developed over the sacrum, and death soon followed. The post-mortem examination disclosed an extra-medullary tumour of the spinal cord, measuring a little more than an inch in its broadest part and extending from a little above the second lumbar segment downwards into the cauda equina, a distance of nearly three inches. It rested on the ventral surface of the cord and at about the level of the fourth lumbar segment. There was some distortion of the cord, especially at the fifth lumbar segment, both the anterior and posterior horns being compressed into a thin mass. The neoplasm proved to be a glio-sarcoma.

THE WATER CARRIAGE OF SEWAGE.

MR. CHARLES TATTERSALL, the medical officer of health of Oldham, has just presented to his sanitary authority a concise report upon the above subject, a report much on the same lines as that made recently to the Nottingham sanitary authority by Dr. Boobbyer, which we noticed in a recent issue.[1] The conclusions, too, at which Mr. Tattersall arrives are, in the main, similar to Dr. Boobbyer's. Returns as to the methods of excrement disposal were obtained from thirty-eight large towns, and of this number six have always had the water carriage system, six have converted their systems to water carriage, sixteen are in process of converting their systems, and two are considering the expediency of so doing; in other words, thirty out of the thirty-eight towns reported upon have adopted or are adopting the water carriage system. In only four of the towns where conversion is going on does the corporation afford financial assistance to the owners of houses. In Hanley £1 is allowed for each pail converted into a water closet; at Accrington £2, and at Sheffield two-thirds of the cost of conversion; at Ashton-under-Lyne allowance is in some instances made for the cost of the closet on new property. Waste-water closets have been introduced in varying degree in twenty of the thirty eight towns referred to. Mr. Tattersall summarises for the sanitary committee the pros and cons in regard to the ordinary type of water-closet, trough closets, and waste-water closets. In discussing the latter he goes fully into all the arguments for and against their use, but he is obviously convinced, both by the evidence adduced and by his own observations, that waste-water closets are under certain conditions of high value. He finally expresses his opinion that the adoption of water carriage for sewage would be found advantageous to the public health and economical to the sanitary authority. The best results would, Mr. Tattersall thinks, be obtained by (1) the conversion of stacks of privies into troughs with automatic flush tanks, under the control of the corporation; (2) the conversion of existing privies situated in yards attached to single dwellings into waste-water closets of some approved type; and (3) the provision on new property of ordinary water-closets or waste-water closets, preferably the former. We notice that, like Dr. Boobbyer, Mr. Tattersall refrains from specifically recommending any particular make of apparatus. There is no doubt that, as Dr. Boobbyer remarks, it is best to simply retain the right of vetoing any unsuitable pattern.

[1] THE LANCET, Jan. 19th, 1895.

CHOLERA IN CONSTANTINOPLE.

THE Turkish papers of the 5th inst. officially announce the outbreak of cholera in Constantinople. According to the official lists three cases were reported between Jan. 31st and the 2nd inst., of which one occurred among the infantry. On the 2nd and 3rd inst. there were six cases, of which two occurred among the troops. Only three cases have been fatal. An official communication was published in Constantinople on the 6th, containing instructions with regard to the prophylactic measures to be taken. A telegram from Athens informs us that on learning of the outbreak of cholera in Constantinople a quarantine of five days was decreed by the Greek Government against arrivals from the Turkish capital, and we understand that a similar regulation is in force at Madrid.

THE NEED OF REFORM IN WORKHOUSE ADMINISTRATION.

A STRIKING instance of the need of reform in workhouse administration as affecting the sick comes from the north of Sussex. In his half-yearly report to the guardians the medical officer enumerated many improvements which were required in the management of the house, and particularly as regarded the Infirmary: No real nursing in the proper acceptance of the term and no night nursing, the insufficiency of surgical appliances, and the shortcomings of the bathing accommodation, were only a few of the faults referred to. But perhaps even worse than these was the mention by a member of the board that he found one inmate dying in bed, and that the other men in the ward were allowed to sit in their chairs as witnesses of the scene. These matters are to receive the immediate consideration of the guardians, and it would seem that as far as this particular workhouse is concerned the Local Government Board circular has come very opportunely. One by one boards of guardians in Sussex are supplying an efficient staff of nurses in the infirmaries, and we venture to hope that instances such as those just mentioned are of the past and not of the future.

GERMAN CONGRESS OF INTERNAL MEDICINE

THE Congress for Internal Medicine, which mostly assembles at Wiesbaden, is to hold its thirteenth annual meeting at Munich from April 2nd to 5th, under the presidency of Professor von Ziemssen. The general sittings on each of the three days—Tuesday, the 2nd, Wednesday, the 3rd, and Thursday, the 4th—will be given up, as usual, to predetermined subjects. This year the subjects selected are: 1. Ferruginous Therapeutics; to be opened by Professor Quincke of Kiel and Professor Bunge of Basle. 2. The Results of the Treatment of Diphtheria by Curative Serum; to be opened by Professor Heubner of Berlin. 3. The Pathology and Treatment of the Forms of Typhlitis; to be opened by Dr. Sahli of Berne and Dr. Helferich of Greifswald. Several papers of interest are already announced. Amongst them may be mentioned: Dr. A. Baginsky (Berlin), the Pathogenic Effects associated with the Serum Treatment of Diphtheria, an important question for which there should be much material now available; Dr. M. Litten (Berlin) on the Physiological and Clinical Significance of the Diaphragm Sign

(Zwerchfellphänomen) with Demonstrations, a subject of some clinical interest which, we believe, was first drawn attention to last year by Dr. Litten at the Berlin Medical Society; Dr. T. Rumpf (Hamburg) on the Treatment of Typhus Fever with Dead Cultures of the Bacillus Pyocyaneus—we presume enteric fever (typhus abdominalis) is meant here; Dr. E. Sonnenburg (Berlin), Appendicitis Simplex; Dr. Semmola (Naples) on the Toxicity of Urine in its degree and "nosographisme" as a Factor in Diagnosis and Prognosis in Disease generally, and especially in Acute Infectious Diseases; Dr. O. Bollinger (Munich), the Causes of Death in Pneumonia; Dr. Smith (Schloss Marbach) on Alcohol in Therapeutics; Dr. Mordhorst (Wiesbaden), contribution to the Chemistry of Uric Acid and the Origin of Attacks of Gout; and Dr. Seifert (Würzburg) on Bronchial Stenosis. The permanent secretary of the Congress is Dr. Emil Pfeiffer of Wiesbaden, and the executive committee consists of Drs. Bäumler, Mosler, Schmidt, and Quincke.

DIPHTHERIA IN LONDON.

THE deaths from diphtheria in London last week showed further fluctuation, having declined from 45 to 34, though still 2 above the corrected average. Of the total 26 were in children aged between one and five years; and 4 each belonged to Poplar, Battersea, and Greenwich, and 3 each to St. Pancras, Limehouse, and Camberwell sanitary areas. The per case mortality last week was as high as 31·5. The admissions to hospital numbered 49, against 74, 72, and 76 in the preceding three weeks, but were less than half the total fresh cases heard of, and Saturday night last found just 500 patients still under treatment. In Greater London also the deaths from diphtheria showed notable decline, 7 only being recorded—namely, 3 in West Ham and 2 each in Edmonton and Bromley districts.

A RECEPTION HOUSE FOR ST. GEORGE-THE-MARTYR, SOUTHWARK.

THE duty imposed upon metropolitan sanitary authorities by Section 60 of the Public Health (London) Act, 1891, of providing temporary shelter for families whose houses are being disinfected is one of the most important in the Act, and we imagine that medical officers of health under the Public Health Act, 1875, must often regret that a similar duty is not incumbent upon provincial sanitary authorities. Certainly all who have had experience of sanitary administration must have over and over again had reason to deplore their utter helplessness in dealing effectually with tenements of one or two rooms where cases of infectious diseases have occurred. There is, we are glad to see, a good prospect of the parish of St. George-the-Martyr soon adding a shelter to its public health defences, and the district medical officer of health, in recent report on the proposed shelter, puts the facts in regard to the matter in a very lucid manner before the sanitary authority. In illustration of the impossibility of efficient disinfection in many cases he points out that between June 1st, 1892, and Dec. 31st, 1894, there were 610 persons occupying infected tenements of one room, 1357 of two rooms, and 461 of three rooms; and in all these cases disinfection could not be properly carried out. In other words, within the last two years and a half no less than 526 infected tenements, occupied by 2428 persons, have not been properly disinfected. It would be of much interest to ascertain whether in many of these cases secondary attacks of infectious disease have occurred after the return of patients from hospital, as it would seem to be by no means unlikely that on the return of a patient infected clothing and articles might be again brought into use and exposed. Dr. F. J. Waldo, in urging the claims of such a shelter, refers to its economical aspects, and he thinks that such provision will ultimately lower the rates instead of raising them by providing fewer inmates for the workhouses and fever hospitals. The plea of poverty cannot, Dr. Waldo contends, be any longer urged by the poorer sanitary districts of the metropolis as an excuse for inaction in carrying out the provisions of the Public Health (London) Act, 1891, inasmuch as the operations of the Equalisation of Rates Act, 1894, will very materially assist those districts which hitherto have had difficulty in the matter of expenditure.

THE REMOVAL OF BONE IN THE MICROCEPHALIC SKULL.

IN a paper on the microcephalic or idiot skull and the macrocephalic or hydrocephalic skull, contained in the recent number of the *Journal of Anatomy and Physiology*, Sir George Humphry remarks that in none of the nineteen specimens of idiot skulls of which details are given is there anything to suggest that the deficiency in the development of the skull was the leading feature in the deformity and that the smallness of the bony cerebral envelope exerted a compressing or dwarfing influence upon the brain, or anything to give encouragement to the practice lately adopted in some instances of removal of a part of the bony case, with the idea of affording more space and freedom for the growth of the brain. In these, as in other instances of man and the lower animals, the brain growth is the determining factor, and the skull grows upon and accommodates itself to the brain whether the latter be large or small. This view is corroborated by the fact that, in the brains taken from the two idiot skulls in St. Bartholomew's Hospital, as well as in other instances, as those shown by Professor Cunningham, the convolutions of the brain give no indications of compression, but are free, outstanding, and separated by well-marked sulci.

"ANAGLYPHS."

SEVERAL remarkable pictures termed "anaglyphs" have been submitted to us. They are printed in two colours, red and blue, the two images of the same object overlapping each other laterally to about three-sixteenths or one-quarter of an inch, and vertically either to about one-sixteenth of an inch or scarcely perceptibly. The pictures are looked at through a binocular eyeglass, one of the glasses being red, the other of a peculiar deep violet blue or blue purple. The overlapping of the images gives to the pictures when examined with the naked eye, a confused, blotchy appearance; but when looked at through the glasses the blotchiness disappears, and instead of it, with a clear outline, the most perfect stereoscopic effect is produced. The reason of this appears to be that the prevailing tone of the pictures is red, whilst the chief outlines are strongly defined in white. These are, of course, seen through the red glass. The blue outline is much fainter, and hence, although it ought to be seen through the blue glass, becomes imperceptible owing to the deep tone of this glass. Only the stronger white and dark outlines can be easily seen through the blue glass. The main outlines, as well as the details, are seen essentially through the red glass, but by skilfully shading the red lines with blue an effect of distance is secured, and the stereoscopic effect is thus in part produced. The best of the pictures we have examined is that of the "Salle de Sculpture—Musée du Luxembourg," which has the curious effect when inverted of bringing the background forwards and throwing the figures back.

CEREBRAL TUMOUR OF ACUTE ONSET.

AT a meeting of the Berliner Gesellschaft für Psychiatrie und Nervenkrankheiten Dr. Bruns recently showed a cystic angioma of the brain which had been removed from the left-leg centre in the posterior central convolution, close to the middle line. He had at first, on account of the absence of

the classical symptoms of tumour and on account of the fact that the onset of symptoms had been acute, thought that the cause of the symptoms was encephalitis rather than tumour; but as no improvement took place an operation was decided upon. The cortex of the central convolutions was healthy. The foot centre—there had been cramps starting in the right foot—was then determined electrically, and an incision made. A tumour was at once evident, and this was removed, together with some brain substance. In the evening and on the next day there was no increase in weakness or impairment of ordinary or of muscle sensibility. The patient unfortunately died from septic meningitis, and the necropsy showed that the rest of the brain was quite healthy. The interesting points in the case are that it was one of tumour without any of the usual symptoms and with quite a sudden onset. The condition after operation, in which presumably there had been removal of a certain part of the cortex, is also interesting because of the absence of any sensory disturbance as a result of this.

TRIONAL.

AN abstract of an important contribution on the action of trional by Dr. K. Rychlinski appears in a recent number of the *Neurologisches Centralblatt*. Fourteen cases of sleeplessness due to various causes, chiefly psychical conditions, were treated with this drug, and at different times sulphonal, chloral hydrate, and duboisin were substituted, and their effect compared with that of trional. He found that in certain cases of long-continued insomnia trional in doses of from one-half to one gramme was efficacious without producing any headache; whereas in the same cases ordinary doses of chloral hydrate or sulphonal were inefficacious and larger doses only procured a short sleep. In certain cases the dose was limited to one gramme, but in only two of the fourteen cases were large doses of four grammes necessary in order to procure unbroken sleep for eight or ten hours, and in those cases chloral hydrate and sulphonal were more efficacious in smaller doses of two or three grammes. Trional in hot milk or tea procured eight hours' sleep usually within half an hour. Sometimes, however, its effect was not produced until two hours after administration. Several times dose took effect also on the second night, but only when a large dose was administered. In a case of mitral regurgitation there was no evidence of any bad effect produced on the heart, and this was confirmed by sphygmographic tracings. Although further experience of this drug is still requisite it cannot be denied that experiences such as those recorded in this paper suggest that in trional we may find a safe, efficient, and reliable hypnotic.

MEDICAL WITNESS AND JUDGE.

ON Feb. 8th, at the Winchester Assizes, before Mr. Justice Cave, a labourer named Cousins was indicted with having attempted to carnally know a girl aged ten years. The jury found the prisoner guilty, and he was sentenced to eighteen months' hard labour. The case is of interest to the medical profession on account of the severe strictures passed on the medical testimony by the judge. Dr. L. Maybury and Mr. Colt gave it as their opinion that "there was no evidence that penetration had occurred," whereupon Mr. Justice Cave remarked that the witnesses were attempting to decide the case and so usurping the province of the jury. It seems to us that the conflict between the judge and the medical witnesses unfortunately arose through the latter—no doubt unintentionally—stating there was no evidence of penetration. What they intended to say was that the evidence as obtained from an examination of the prosecutrix was not conclusive, since the hymen was not ruptured and there was no laceration or bruising of the parts. At the same time there was presumptive evidence of the act, for the vulva were inflamed and there was a purulent discharge, and on the shirt of the prisoner the microscope revealed semen, pus, and epithelial scales. We regret that the learned judge did not take a more generous view of the medical evidence, instead of practically ascribing an interested motive. Nevertheless, the incident should form a valuable object-lesson of the importance, especially in criminal cases, of using correct phrases and of drawing logical inferences.

PSEUDO-BULBAR PARALYSIS.

DR. SACAZE of Montpellier records in the *Revue de Médecine* the case of a patient who in consequence of two separate attacks suffered from left hemiplegia, hemi-chorea, aphasia, and aphonia, with great difficulty in swallowing, and paresis of the tongue and of the soft palate. The necropsy revealed areas of softening in both hemispheres, the internal capsule, the lenticular nuclei, and the caudate nuclei being destroyed on both sides. The pons and medulla, apart from commencing secondary degeneration of the pyramids, were quite normal. This case illustrates the fact, which has now frequently been pointed out, especially by Dr. Barlow and Drs. Hughlings Jackson and James Taylor in this country, that a lesion on each side of the cerebrum gives rise to symptoms which so closely resemble those of bulbar paralysis as to be clinically almost indistinguishable from these. The reason of this seems to be that whereas a unilateral lesion in the brain gives rise to only transitory and slight affection of the bilaterally associated movements, the occurrence of a second lesion on the opposite side of the brain so weakens those movements as to cause very distinct impairment of the œsophageal, laryngeal, palatal, and tongue movements, thus giving rise to symptoms which closely simulate those of bulbar paralysis.

THE DIFFUSION OF SMALL-POX.

THE new cases of small-pox notified in London last week were 11 in number, and the admissions to institutions of the Metropolitan Asylums Board were 18, against 6, 8, and 21 in the preceding three weeks respectively. The disease continues to prevail in the parish of Marylebone, to which belonged the 3 deaths from small-pox registered in London during the week. On Saturday last there remained 56 cases of small-pox under treatment, an increase of 5 on the total on the preceding Saturday. Last week witnessed an increase of fresh cases in West Ham, where over 6 attacks were chronicled. One or two cases came to light in other suburban districts. A dozen attacks at Birmingham show that the disease is getting under control there; and, moreover, no death was registered. Generally the midland districts were free, as compared with recent weeks. In Scotland small-pox continues to spread in Glasgow. A death occurred on Wednesday of last week in the person of a sailor from London, and 4 fresh cases came to light, followed by 2 more the next day; when also two persons were dismissed from the infirmary, having been admitted under a mistaken diagnosis. The total cases in the city were then 39 in number. In Edinburgh there were 25 patients known to be under treatment in the middle of last week, 7 cases having been notified since Jan. 27th. In Govan and Auchterarder stray cases have recently been discovered. In Dublin in the week ended the 2nd inst. 69 cases were admitted to hospital, 64 discharges took place, and 171 patients were left under treatment, 131 additional convalescent cases being under isolation at Kilmainham. Five deaths occurred, including 2 in vaccinated persons (aged nine and fifty years respectively) and 2 in unvaccinated persons, both under ten years of age. A total of 106 deaths had been reached up to the date in question. Much good will, it is hoped, be effected by the very stringent order of Archbishop Walsh as to the disabilities of persons in the

matters of school attendance and confirmation if not vaccinated or revaccinated as their age may require. In December no fewer than 127 streets were invaded by small-pox—30 on the north side and 97 onthe south side of the Liffey. The admissions to hospital were 262 in number, the notified cases 210, and 26 deaths were registered. All possible steps are being taken to prevent the spread of the disease, and 56 persons were at the close of the year occupied in the removal of patients and in the necessary processes of disinfection. In the fourth quarter of 1894 the admissions to hospital numbered 466 and the deaths registered 51, including 27 unvaccinated sufferers, of whom 9 were under five years of age, and 21 vaccinated persons all over that age.

THE NATURE OF GASTRO-ENTERITIS IN INFANTS.

FROM examinations of the blood of infants suffering from gastro-enteritis, conducted in Professor Epstein's clinic at Prague, A. Czerny and P. Moser think that this affection is to be regarded as a general infection of intestinal origin.[1] It is, therefore, different from dyspepsia, in which the disease remains limited to the gastro-intestinal tract. Thus, out of fifteen cases of gastro-enteritis in which the blood was examined during life, in twelve the presence of micro-organisms was ascertained. On the other hand, in only two out of thirty healthy children were cultures obtained from the blood, and of eleven infants suffering from dyspepsia only one yielded that result. The microbes found circulating in the blood in the subjects of gastro-enteritis comprised staphylococci, streptococci, bacterium coli commune, bacillus pyocyaneus, and bacterium lactis aerogenes, all of which are known to occur in the intestinal contents. It is pointed out that this variety in organisms concords with the multifariousness of the symptoms of gastro-enteritis, whilst it shows that prophylactic measures are more hopeful than therapeutical, the value of which latter must depend on the kind and intensity of the general infection.

THE ROWLANDSON EXHIBITION.

DID the comic portrait painter of the eighteenth century see all whom he intended to bring into ridicule as the victims of advanced acromegaly? Acromegaly is still of sufficiently unusual occurrence, yet to the eyes of Rowlandson, Bunbury, and Gillray mankind could best be brought into contempt by depicting them with the *facies* of the disease as they had evolved it from their imagination. The immensely lengthened face, the projection of the under jaw and lip, the low forehead, the sunken eyes, the large ears, the swollen face are all there, and placed on paper a hundred years before the pathological condition was known to our profession. And this becomes more astonishing when we remember that the artists of those days were not idealists, but that without any modern pretensions to realism they painted what they thought they saw. And that they really saw the human face, whether wrung into distortion for purposes of caricature or graciously smoothed out for purposes of flattery, to be different from what we see it, is proved to our minds by the fact that Reynolds's and Gainsborough's courtly creations have the same similarity to each other that we have described as being present in the work of the caricaturists. Except to a connoisseur, who may be guided by some trick in brush-work, it is often difficult to see the difference between the Duchess of Dashire with hoop by Reynolds and the Marchioness of Blankaster with dog by Gainsborough. Those interested in Rowlandson's work had an excellent opportunity recently of seeing a collection of his drawings at the Fine Art Society in Bond-street. Famous as a caricaturist, he was there seen in his less known character of a graceful portrait painter, but the characteristic countenances were not without numerous examples.

[1] Jahrbuch für Kinderheilkunde, 1894. Abstract in Fortschritte der Medicin, 1895, No. 3.

PYLOROPLASTY.

IN THE LANCET of July 9th, 1892, Dr. Limont and Mr. Page published an account of the first case of pyloroplasty performed in this country. In the following May Mr. Pearce Gould[1] published also in this journal an account of a case in which he had repeated Mikulicz's operation and entered more fully into its details and advantages. He also collected a series of twenty-two other cases by various American and Continental surgeons. In a recent *brochure* Dr. Corazza of Verona records a successful case of his own, and adds a series of twenty-seven other cases by Continental surgeons. Together with Mr. Miller's case recorded in THE LANCET of Dec. 1st, 1894, and Mr. Morison's case published in our columns to-day, we obtain a total of fifty-three cases in which pyloroplasty has been carried out for pyloric stenosis. Of these, six have proved fatal—two from collapse, three from sepsis, and one from internal hæmorrhage consecutive to the operation. These figures show an exceedingly satisfactory result, and there is reason to look for a still further improvement if the patients are submitted to operation at an earlier period of the affection and with more perfect observance of complete asepsis. The restoration of the function of the stomach is a different matter from mere recovery from the operation, and the published reports of the cases are not in all cases complete in this respect, nor have they been made sufficiently long after the operation to permit of a full statement on this head. But here, too, early operation is likely to yield far better results than when the disease has been allowed to progress almost to a lethal point before operation is resorted to.

[1] THE LANCET, May 20th, 1893.

DIPHTHERIA AT MITCHAM.

DR. MAIR, the medical officer of health to the Croydon Rural District Council, has presented a report to his health committee upon the prevalence of diphtheria in Mitcham during 1894, which contains some instructive facts. Out of a total of 64 cases notified in the whole district during the year, no fewer than 53 occurred in Mitcham and the adjoining part of Merton, the number of houses invaded being respectively thirty-seven and twenty-seven for the same areas. Dr. Mair very properly points to the disparity between invaded households and cases as a pressing need for an isolation hospital. As regards the disproportionate incidence in Mitcham and its vicinity the facts point clearly to school infection, children attending one particular school in the district from twenty-one out of the twenty-seven invaded houses, yet in eleven of these the child first attacked did not attend school. Dr. Mair thinks, therefore, that a wider explanation is to be found in the drainage conditions, not only of the school, but of the whole of the affected portion of Mitcham. Owing to the defects in gradients and connexions there is an actual influx of sewage from the main sewer into the drains during flood times. His advice that everything should be done to remedy this "heading back" of the sewage at all costs is therefore thoroughly warranted; and in further proof of the unhealthiness of the area it may be remarked that an inspection of 318 children attending the school in question resulted in the discovery that 243, or nearly 47 per cent., had "unhealthy throats." Chronic tonsillitis and a certain proportion of granular throats were the prevailing conditions. It is not surprising then that diphtheria should have found a footing

here—the only wonder is that on such a fertile soil and in such an environment it did not make more serious ravages. Croydon has, as we know, generally enjoyed the reputation of being particularly careful in its sanitary affairs. Its rural sanitary authority must bestir itself if it is not desirous of losing this distinction, for a clearer case of defective sanitation of a district could not be made out.

THE USE AND ABUSE OF INFANT INSURANCE.

IT is not to be expected that a practice so common among the artisan classes as infant insurance should fail to excite some difference of opinion. We are, therefore, prepared to find that our own utterances on this subject are contrary to the views of certain critics. Two of our assertions[1] in particular have been called in question. One is that which relates to the cost of burial as being within the competence of almost all thrifty working people; the other notices a possibly suggestive coincidence in the fact that among 4629 children recently subjected to cruel treatment 1237 were insured. It must not be supposed that in these statements we desire to associate with the principle of such insurances any necessarily pernicious tendency. But, on the other hand, we are by no means sure that they are as essential to the domestic economy of the poor as some have asserted, or so fully justified by their effects as is desirable in the public interest. Homely thrift may not always meet the demands of illness or death, although we believe it can do so much more often than is generally known. Where it cannot, let it be aided by any prudent method which is safe and just, but this, in order to attain its purpose, must, in our view, be regulated with a view to the actual cost of a poor child's funeral, and not by such lavish estimates as ignore that modest estimate; and it will be a matter well worthy of the consideration of the Legislature, when the question of children's insurance again occupies the attention of "the House," whether the limit at present placed by law upon such transactions should not be cut down to a smaller figure than that at which it at present stands.

CHANGES IN THE LIVER IN TYPHOID FEVER.

VERY few observers have drawn attention to the pathological changes occurring in the liver during typhoid fever; nevertheless, marked lesions are frequently found after death. A paper by Dr. J. A. Amyot, detailing the histological appearances thus exhibited, appears in the *Canadian Practitioner* for January of this year. The conclusions arrived at were based upon the examination of the liver in seven cases. Little nodules were found in all the specimens, in some in small numbers and in others in comparatively great numbers. They varied from about one-fortieth to one-fifteenth of the size of the lobules, and were distributed irregularly. Dr. Amyot divided the nodules into two classes, the lymphoid and the necrotic. Neither of them seemed to be of new growth. At first they appeared to be alike, but afterwards became invaded to a greater or lesser extent by lymphoid cells. The nodules were made up of masses of unstained granular protoplasm. In some of these masses the nuclei were still visible, though unstained. Some of the nuclei were broken up into several fragments, which stained diffusely. The capillaries of the nodules were filled with granular material. Lymphoid cells were found chiefly in the capillaries, but a few were seen between the hepatic cells. The so-called lymphoid nodules differed from this only in the difficulty with which the formed elements were seen and on account of the great number of lymphoid cells present. They were sharply cut off from the surrounding tissue. Besides these nodules there were present areas of capillary dilatation, with only the nuclei remaining in the hepatic cells. These areas were of varying size and location, but were generally larger than the nodules before described; they were as a rule circular in form and were not so sharply marked off from the surrounding tissue as the necrotic nodules; they were present in four out of the seven specimens. There was no pigmentation. The other changes in these specimens were nutmeg change, atrophy and pigmentation of the hepatic cells, and dilatation of the capillaries in the intra-lobular vein zone. Fatty degeneration of the cells in the portal vein zone was present in two of the specimens. Beyond some excess of granulation there was no change in the protoplasm of the cells. Dr. Amyot, quoting Dr. Osler, remarks that no definite relation between the typhoid bacilli and the nodules above described has so far been made out.

[1] Vide THE LANCET, Jan. 19th, 1895.

THE students of King's College have arranged for a concert to be given at the College on Tuesday next, under the patronage of H.R.H. the Duke of Cambridge, the Duke of Westminster, the Bishop of London, the Hon. W. F. D. Smith, and Dr. Wace, on behalf of the funds of King's College Hospital. Mrs. Hutchinson, Miss Gambogi, Madame Haas, Miss Kendall, Madame Anna Lang, Herr von Dulong, Mr. Rumford, Mr. Wolseley, and Mr. Sewell will give their services.

LORD REAY, G.C.S.I., Vice-President of University College, London, will preside at a dinner at the Criterion Restaurant on Wednesday, March 13th, at which Sir John Erichsen, Bart., F.R.S., Sir J. Russell Reynolds, Bart., F.R.S., and Sir John Williams, Bart., M.D., are to be entertained by their colleagues, friends, and pupils. The honorary secretaries, from whom tickets and all information may be obtained, are Dr. Poore, 30, Wimpole-street, W., and Mr. W. A. Meredith, 21, Manchester-square, W.

Pharmacology and Therapeutics.

CHLORAL HYDRATE AND IRON.

SOME recent observations by Mr. Alexander Gunn[1] show that under some circumstances crystals of chloral hydrate are subject to a peculiar yellow discolouration. This affects only the surface of the crystals and seems to be due to the accidental presence of a particle of iron in the stock bottle and to the liberation of free hydrochloric acid. Similar discolouration was easily produced by leaving some ordinary white crystals of chloral hydrate in a test-tube for a week together with a minute fragment of iron.

IODINE ADMINISTERED BY INJECTION.

The injection of a solution of iodine subcutaneously, or into the substance of a muscle, has recently been practised by some Italian surgeons for the treatment of several classes of diseased conditions with apparently much success.[2] Dr. F. Durante, Clinical Professor of Surgery in Rome, has employed these injections in pulmonary and artbritic affections of a tuberculous character, and more recently Dr. Mennella, a military surgeon, has extended the same treatment to joint affections of a non-tuberculous nature. In two cases of hydrarthrosis of the knee of traumatic origin, where ice, tincture of iodine, blisters, and fixation, together with large doses of iodide of potassium, had been tried for a couple of months without result, peri-articular hypodermic injections of iodine caused the fluid to rapidly disappear. Again, in glandular enlargements both in the neck and in the groin the same treatment gave excellent results. Dr. Mennella subsequently tried iodine injections in cases of syphilitic and grave malarial cachexia, and in anæmia and hydræmia in patients recovering from exhausting diseases, also in chloro anæmia in young girls, and in rickets in

[1] Pharmaceutical Journal, No. 1278, p. 533.
[2] La Semaine Médicale, Dec. 26th, 1894.

children. In all these good effects were observed. He then employed the treatment in a tedious case of broncho-pneumonia where the cough had persisted for a long time, with insufficient respiratory sounds in the left apex. After a fortnight the patient was able to resume his work. The liquid employed by Dr. Mennella is simply a 1 per cent. solution of metallic iodine in boiled distilled water containing just sufficient iodide of potassium to dissolve the iodine. Of this, fifteen minims are injected once daily. In the case of very anæmic subjects fifteen minims of a 5 or 10 per cent. solution of ammonio citrate of iron may also be injected, either at the same time as the iodine or alternating with it. As a rule, there is but little irritation at the point of puncture, but occasionally the injections have to be suspended for two or three days because of the inflammation produced. Of course, iodism may be produced, but when this occurs it is less severe than when caused by the internal administration of iodide of potassium. The idea of injecting iodine in some of the above classes of cases is not new, though the exact form of solution may be. Mr. Messenger Bradley[3] published an account of some cases of glandular tumours which he had successfully treated by injecting tincture of iodine into the substance of the tumour; and previously Dr. Luton[4] had with excellent results injected a solution of iodic acid in goitre, in indolent adenopathic swellings of the cervical and submaxillary regions, and in a case of osteo-periostitis of a phalanx of the hand. This plan was also adopted in lymphatic tumours with satisfactory results by Dr. Hardman[5] of Blackpool.

GUAIACOL APPLICATIONS.

In the course of a discussion in the Paris Société de Thérapeutique on Dec. 12th, 1894,[6] on the external application of guaiacol in pleuritic effusions and scarlatinal nephritis M. Miron Sigalen, who was one of the originators of this method of treatment, stated that he had never observed any lowering of the temperature, rendering collapse imminent, as reported by some physicians. MM. Grellety and Ferrand, however, declared that caution was very necessary lest a collapsed condition be produced, at all events in patients already very weak and low from the disease. On this subject M. Catillon's warning as to the importance of employing pure guaiacol, which has the property of being completely soluble in glycerine, should be useful. He remarked that whenever a non-crystalline guaiacol is employed no certainty can be felt that it is pure.

THE LANCET

Special Analytical Sanitary Commission

ON THE

MANUFACTURE AND CHARACTERISTICS OF MUNICH LAGER BEER.

GERMAN BEER, more especially the Munich beer, is undoubtedly becoming a very popular beverage in this country. It is not "heady," and is both light and very cool. Those who cannot do sedentary or clerical work after taking the strong and heavy English ales and stout are not inconvenienced by drinking lager beer. It is in every respect an excellent drink for the advocates of true temperance—that is to say, for those who are opposed alike to the intemperance of excessive drinking and the intemperance of total abstinence. German beer ranks side by side with light natural wines, which French legislators now qualify as hygienic drinks. Of all German beers, that which is the most renowned and the most extensively drunk in all parts of the world is undoubtedly the Munich beer. For this reason we have thought it useful to institute a special inquiry with a view of ascertaining how far this preference was justified. It is not to-day, but we might say from time immemorial, that Munich has been renowned for its beer. This reputation, so early acquired, may be due in a measure to the severity of the Bavarian laws in respect to the making of beer. We find that an official publication dealing with "the common rules concerning the statutes and customs of the Principality of Upper Bavaria and of Lower Bavaria," and bearing the date of 1516, contains the following enactment: "Wheresoever in our towns, markets, and rural districts, it is forbidden to employ other material beyond barley, hops, and water for the making of beer." This law was renewed in an "ordinance of beer," dated 1616. Finally, the law is reaffirmed by an ordinance of April 25th, 1811, and by the law of Nov. 10th, 1861.

Apart from the laws restricting brewers to the use of only malt, hops, and water, there is another legislative reason why Munich beer should be of good quality. A tax has been imposed on malt since the year 1543. Now in the breweries there is a special apparatus, which is sealed and kept under control by Excise officers. The malt passes through a sort of revolving drum; each revolution is recorded mechanically, like the revolutions of a steam engine, and thus a correct account of the amount of malt that has gone through is obtained. The tax varies according to the quality of the barley employed; therefore there is nothing to be gained, so far as the tax is concerned, by using inferior qualities of barley. This malt tax being very high, it pays best to have only the best quality of barley. Then there is the law of May 16th, 1868, which in Article 7, after again repeating that beer shall be made only of hops, malt, and water, adds that it is especially forbidden to use barley that has not been converted into malt, or that is mixed, partly barley, partly malt. Thus the law has brought about the best fundamental conditions for the production of a really wholesome beer; for, not only must beer be made exclusively of malt, hops, and water, but the excellent quality of the malt is ensured. Now that beer is manufactured with the aid of complicated machinery and in enormous quantities, the great object of brewers is to ensure uniformity of quality. For this the same water and the same barley are necessary. One reason of the superiority of Munich beer is the great skill with which the barley is selected. The barley must have a definite amount of albuminous substances so as to produce a good fermentation, and it is not the barleys with the best exteriors that give the best results. On this point it is difficult to lay down a fixed rule, and where only a small quantity of beer is brewed it is possible to watch the effects and modify the procedure accordingly; but when a large quantity of beer is brewed it is more practical to use a barley of such quality as will give a stable result. Better barleys are therefore now employed. It is, however, especially in the details of manufacture that the explanation of the excellence of Munich beer will be found. Therefore, to understand the subject it is necessary to visit throughout a leading brewery. There are thirty breweries at Munich, and as it was impossible to visit all these vast establishments, a selection had to be made, and the directors of the Löwenbräu, which stands first of the large breweries, gave every possible facility for the complete inspection of all the processes they employed in the manufacture of the most popular of German beers.

The process of brewing differs greatly from that generally practised in England, and, as will be seen, it is well calculated to produce a very wholesome beer. It is reckoned that one hectolitre of malt will give a little more than two hectolitres of beer. Water, which weighs four times more than the malt, is first mixed with the malt when cold, and slowly warmed to 12° or 14° R. (60° F.). This done, hot water is pumped on to the mixture till it attains a temperature of 28° R., care being taken to stir actively the whole time, and thus the malt is well distributed throughout the liquid. Of course, this is all done by machinery. Only a portion of this liquid is brought over into a second boiler, and there it is heated to boiling point—that is, 80° R. (212° F.). What remained in the first boiler is no longer stirred, but the portion which has been boiled—it now takes the name of mash—is sent back and mixed with the stagnant part till the two together attain a temperature of 38° R. (120° F.). The same process is again repeated in all three times, till the temperature of the latter is raised to 58° or 60° R. (170° F.). The liquid resulting from this slow heating and mixture of water and malt is what is called wort. It is now placed in a tank, which has a sieve filter at the bottom to retain the malt, while the clear liquid passes to the space underneath. When this filtered liquid, by

[3] THE LANCET, Sept. 4th, 1875.
[4] THE LANCET, Sept. 27th, 1873.
[5] THE LANCET, Oct. 9th, 1875.
[6] La Semaine Médicale, Dec. 26th, 1894.

the opening of a tap, is allowed to pass away, hot water is poured on the grain that remains above the sieve. This water draws the extract of the grain, and forms at first a very strong wort, which soon gets weaker and weaker. It is so contrived that, when all the worts, weak and strong, are mixed together, the general average of the liquid shall contain 14 per cent. of extract. The wort, after it has been boiled with the hops and filtered, is pumped to the topmost floor of the brewery, where it spreads out in twelve large, shallow, tray-shaped tank-coolers. To further cool the wort it travels down to the cellars through double pipes. The water used for cooling of course soon gets warm, but it is cooled again by being thrown over a large quantity of pipes filled with ammonia. Also, through this sort of cascade four ventilators propel a strong current of air. The whole of the process up to this point takes about twelve hours, and when once the wort has been cooled the fermentation may be allowed to begin.

The first fermentation takes place in large open vats, and lasts from ten to twelve days. It commences at a temperature of 5° R. (43° F.), and is allowed to reach a temperature of 8° R. (50° F.). At this point the heat is checked, and this is done by introducing into the vats tubes and hollow plates, inside which very cold water circulates. Also, the cellars in which the fermentation takes place are kept at a temperature that is only a degree or two above freezing point. When the fermentation is over the beer is at a temperature of 5° or 5½° R. It has then to be reduced to a temperature of 2° R. (36° F.), which is accomplished by passing it through cooling pipes. It may now be placed in casks in which the second fermentation is allowed to take place. For this purpose the bung is not inserted and the temperature of the cellar is not allowed to exceed 1° R. (34° F.). The second fermentation lasts six or more weeks. The rate of the second fermention is modified according to whether the beer is wanted quickly or not. If the second fermentation has to be checked this is done by putting wood shavings into the cask, which collect the yeast, and, slowly sinking, carry it down to the bottom of the cask, and thus also the beer is clarified. When the second fermentation is finished care must be taken to fill the cask up to the brim so as to allow no place for the gathering of foam or air, and then the bung hole is closed. The beer must stand eight or ten days, so that enough carbonic acid may be generated to render it agreeable to the palate. But as the beer must not be closed up for longer than ten days in large casks, it is generally at this stage put into smaller casks, where it will keep from six to eight weeks in a cellar the temperature of which is not more than 7° R. (48° F.). Thus it comes to this, that the beer should be drunk within six weeks after it has gone through all these processes or put into bottles and "Pasteurised." What is known as the March beer, which is drunk in autumn, has 16 instead of 14 per cent. of extract before fermentation, and therefore keeps longer.

It will be seen from all these details that the great secret of Munich beer may be summed up in the one short word "ice." At the Löwenbräu Brewery there are enormous engines occupied exclusively in compressing air so as to produce cold. In the vaults of the cellars there are tubes in which salt solution reduced by refrigerators at some degrees below zero is made to circulate. The circulation of the air of the cellar, in consequence of the method of cooling, travels in a downward current, and the aqueous vapours it contains on entering condense on these intensely cold tubes. It forms clusters of ice and snow, and the air that enters the cellar is thus at once dried, purified, and cooled. This is the all-important secret for the production of really good nutritious beer, which nevertheless contains very little alcohol. Great cleanliness and a very cold temperature are the fundamental principles. Formerly it was impossible to make beer in the summer. Indeed, even now the smaller brewers only brew in winter, for it is only by the employment of expensive machinery that a cold temperature can be artificially created. On the other hand, a temperature which is the result of mechanical action can be much more precisely regulated. Therefore, both in winter and in summer we find in the cellars of the brewery exactly the same conditions, and thus a beer of fixed quality and excellence is regularly produced.

In respect to the bottled beer, the bottles, after careful cleansing, and after being filled with beer and corked down by a patent air-tight porcelain and rubber stopper, are "Pasteurised." This means the immersion of the bottles into a tank of water into which steam is discharged so as to bring the heat up to about 160° F., at which temperature the germs of second fermentation are destroyed, and the beer can then be kept an indefinite time and exported even to the hottest climates. It has been thought that the peculiar flavour of Munich beer is due to a special race of yeast employed. No evidence on this head was forthcoming. Professor Louis Aubray, Director der Wissenschaftlichen Station für Brauerei in München, to whom we are indebted for much valuable information and assistance, stated that there were often several races in the yeast of one single brewery. One special sort of yeast might suit one brewery and not another, but there was apparently no connexion established between the flavour of the beer and the form of the yeast. There is, however, a great difference between yeast of high fermentation and rapid action employed in English breweries and the yeast of slow action utilised by the Bavarian brewers.

Such, briefly, are the main features of the manufacture of Munich beer, as it was shown and explained to us at the largest brewery on the Continent.

THE ANALYSIS OF MUNICH BEER AND THE EXAMINATION OF THE MATERIALS USED IN ITS MANUFACTURE.

We have seen what are the salient points of difference between the English and German or Bavarian mode of manufacturing beer, and we may refer to these points for an explanation of the qualities—especially in regard to flavour, alcoholic strength, and the quantity of malt and hop extractives—which sharply distinguish the one from the other. Thus the peculiar qualities—especially the flavour—of Munich beer are doubtless to be ascribed, in a large measure, first to the fermentation being very slow and carefully restricted to a low temperature. Secondly, the employment of sedimentary yeast tends to render the products of a simpler, and doubtless more wholesome, nature than those which are evolved when a more rapid fermentation is allowed to proceed, such as occurs when a comparatively high temperature and top-growing yeast are adopted. Again, the quantity of hops used in the brewing of Munich beer is much less than is employed in this country, while in Bohemia and Bavaria the hops are gathered earlier, so as to exclude much of the narcotic principles which longer growth fosters. Since, as is well known, the constituents of the hop are distinctly narcotic, this, in addition to the decreased percentage of spirit, would account for the comparative absence of drowsy symptoms when Munich beer is drunk, but which so frequently follow the consumption of English beers. A knowledge, then, of the processes which the Munich brewer employs throws considerable light upon the observation that while Munich beer serves admirably to quench thirst, yet it is devoid of those properties of English made beer which have given rise to the proverbial saying that "to drink beer is to think beer." We may next turn our attention to the information derived in the laboratory upon the composition and character of the various materials employed in the preparation of Munich beer and of the finished beer itself. To this end we have obtained samples direct from the Löwenbräu Brewery at Munich of the water, yeast, and malt, as well as the beer; they were all packed in ice in special conveyance on the journey, and were kept in ice until the precise moment of making the analysis. We may discuss these in the order in which they were examined.

It is well known that variations in the mineral constituents of the water used in brewing exert an important influence on the character of the finished beer. Hard and somewhat saline water, for instance, is preferred in the brewing of pale and bitter ales in this country, since it extracts less colouring matter and—what is more important—less albuminous matter or proteid from the malt. It is the latter substances which, when present in excess, are fatal to the prime condition of English brewed ales. Thus in England hard waters are in general use, as is illustrated in the following analysis of a water drawn from the well of a well-known Burton brewery.

Constituents.	Grains per gal.
Sodium chloride	10·12
Calcium, magnesium, and potassium sulphates (permanent hardness)	36·56
Calcium and magnesium carbonates (temporary hardness)	17·21

On the other hand, the Munich brewer uses a softer and practically non-saline water, which extracts a greater and requisite amount of albuminous principles. This is confirmed by the following analysis, made in our Laboratory, of the sample of water used in the Löwenbräu Brewery.

Constituents.	Grains per gal.
Sodium chloride	0 46
Calcium and magnesium sulphates (permanent hardness)	7 21
Calcium and magnesium carbonates (temporary hardness)	8·69

Thus it will be seen that the Burton water is twice as hard as regards temporary hardness and five times as regards permanent hardness, and, in addition, contains a notable amount of common salt, of which the Munich water contains none. It was, further, remarkably free from organic matter and perfectly bright and clear.

It has already been mentioned that a yeast that is formed by a violent or racy fermentation and at a higher temperature, as employed in English brewing, has more active qualities than yeast found at a lower temperature and by slow fermentation. The first spreads itself rapidly over the surface of the fluid and is termed "superficial" yeast, while the second sinks to the bottom of the vessel and there continues its action; it is, therefore, termed "sedimentary" or bottom yeast, and is what is employed in the Munich Löwenbräu Brewery. The important advantage of the use of a yeast growing at a low temperature in brewing is that while the normal functions of the yeast are free to act, yet the same cold discourages the growth of disease ferments, and a healthier beer is ensured. A sample of the Löwenbräu yeast on examination presented the appearance of a firm, clean grey sponge, which, under the microscope, was seen to consist of well-developed and regularly sized cells and to be quite free from foreign matters, and, what is more important, from bacterial forms of life. An excellent fermentation was induced by its use in an experiment we tried with a solution of ordinary cane sugar.

The excellence of the hops grown in Bohemia and Bavaria is well known, where they thrive under conditions eminently suited to the development of those qualities which are essential for the production of sound and wholesome beer. The samples submitted exhaled the peculiar fragrant odour of the oil of hop when gently warmed and pressed, while no evidence was obtained that the dealers in these hops have sought to preserve them by the process of "sulphuring." The agreeable smell, the sweet, characteristic taste, coupled with the crispness and friability of the malt submitted, afford evidence of its quality, while its activity was shown by the readiness with which a cold-water extract of it converted starch paste into dextrin and sugar. Lastly, the analysis of the finished product, the beer itself, gave the following percentage results. Side by side will be found the results of analysis of two average samples, mild and bitter, of English beer. Thus an interesting comparison is established.

Constituents.	English beers.		Löwenbräu beer.
	Mild.	Bitter.	
	Per cent.	Per cent.	Per cent.
Alcohol by weight	6·78	5·44	3·55
„ volume	8·45	6·78	4·45
Equal to proof spirit	14·81	11·89	7·80
Total malt extractives	6·74	5·42	7·09
Mineral matters	0·43	0·24	0·36
Albuminous matters	0·26	0·16	0·577
Maltose and dextrin	5·77	4·22	6·15

These results are instructive in partly accounting for the differences of physiological effect between English and Munich beer. Thus, in spite of the fact that the Munich beer contains a greater proportion of nutritious malt extractives than even the strongest beer in the above analyses, yet the alcohol is reduced to almost exactly half the quantity contained in the English beer. It is, however, the influence of both hops and alcohol which combine to produce drowsiness and stupor, so that we have at once a complete explanation of the advantages which the consumption of Munich beer affords in this respect. Nor is the reduction of these constituents effected at the expense of the important alimentary constituents of beer. On the contrary, the percentage of malt extract in Munich beer is slightly in excess of ordinary "mild" English ale. The nutritive value of malt extractives is due in part to dextrine and malt sugars, but the mineral matter, owing to its richness in phosphate, must add largely to the nourishing properties of the beer. Thus the analysis of the mineral matter of Löwenbräu beer furnished the following results (calculated on a hundred pints of the ash):

Phosphoric acid (P_2O_5)	32·00 per cent.
Potash (K_2O)	37·80 „
Silica	9·44 „
Other salts, chiefly carbonates and sulphates of lime and magnesia	20·76 „
	100·00

The ash consists, therefore, for all practical purposes, of the valuable dietetic agent, phosphate of potassium. It follows also that the nutritive matter of beer, including the nitrogenous principles, are in a soluble form, and therefore favourable for easy assimilation and digestion.

The final operations of analysis were devoted to the examination of the beer for hop substitutes and objectionable preservatives. Although by law the use of substitutes is forbidden in Germany, yet we have frequently found objectionable substance—as, for example, salicylic acid in German export beer. It has already been explained, however, that the Löwenbräu beer is preserved by the simple and effectual process of "Pasteurising," which obviates the resort to the use of objectionable antiseptics, while it does not interfere with the taste or condition of the beer to any appreciable extent. As a matter of fact, we found the beer was entirely free from substances of this class, and our search for bitter substitutes was attended also with similarly negative results. In the light of these excellent qualities which our analyses have brought to view, we are justified in regarding the beer as not only genuine, but wholesome.

DIFFICULTIES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

IV.[1]

5. *Multiple Certificates relating to the same Patient.*

THERE are occasions when two or more certificates of notification are sent to the medical officer of health of a district, the several certificates relating to the same case of infectious disease, and in such instances the sanitary authorities concerned have hesitated to pay more than one fee. The Infectious Disease (Notification) Act is quite clear on that point. It states in Section 3, I. (*b*) that "*every* practitioner attending on or called in to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this Act applies, send to the medical officer of health a certificate. ....." Multiple certificates must therefore be paid for, if they are sent in, where two or more practitioners are "attending on or called in to visit the patient." The only doubt that can remain is as to the meaning of the words "attending on or called in to visit." These words have never received any legal interpretation, and the Local Government Board have announced that they are not empowered to give an authoritative interpretation of Acts of Parliament. But whilst they very naturally take this attitude, they added as follows in a letter to the clerk to the Uppingham rural sanitary authority on Dec. 29th, 1890: "They may, however, state generally that they are disposed to think that a practitioner who sees a patient, not as his medical adviser, but for some purpose unconnected with his treatment, cannot be regarded as [in the words of Section 3, I. (*b*) of the Act] 'attending on or called in to visit the patient'; and he is, therefore, not required to certify or entitled to be paid for a certificate under the Act. If, however, two practitioners are in actual attendance on or

[1] Parts I., II., and III. were published in THE LANCET of Jan. 19th, Jan. 26th, and Feb. 9th, 1895, respectively.

are called in to visit a patient, whether at the same period or successively, and their attendance or visiting is connected with the medical treatment of the patient, both are, in strict law, required to send certificates of notification, and these must be duly paid for by the sanitary authority." Also, in another letter at about the same date, the Local Government Board wrote: "If, as a matter of fact, a patient is suffering from a notifiable disease when a medical practitioner is called in to attend on such patient, the fact that a notification in respect of the case has been given by a previous medical attendant (whether such attendant is medical officer of health or not) does not dispense the second medical practitioner from the obligation of certifying."

Beyond the principles here indicated we do not feel that we can usefully lay down any rule on this subject, but we are of opinion that there are cases in which it is possible to put too great a strain upon the actual words of the section. Thus, where a medical practitioner who is in attendance on a case sends on occasion one or more qualified assistants to pay odd visits on his behalf he may hesitate to authorise the issue by them of new certificates of notification.

6. *Notification by Medical Practitioner as well as by Head of Family.*

It will be remembered that under Section 3, I. (*a*) of the Act the head of the family or other responsible person is obliged to notify to the medical officer of health the existence of cases of the specified infectious diseases; and that under (*b*) of the same section a similar duty devolves on the medical practitioner in attendance. This is, in fact, the system of dual notification. But as a dual system it is in one sense a dead letter, for proceedings are now rarely if ever taken to enforce certificates from the heads of households in cases where a medical practitioner is called in and notifies the disease. But there are instances of mild infectious disease in which the head of the house does notify, and it is only later, when graver symptoms supervene, that a medical practitioner is called in. Whatever the period at which the medical practitioner is called in and becomes aware of the fact that the disease is a notifiable one, it is his duty forthwith to send in a certificate of notification, and this notwithstanding the fact that he knows that a prior certificate has already been transmitted to the medical officer of health by the parent or head of the house. That this is also the view of the Local Government Board will be seen from the following extract addressed by that body to the town clerk of Honiton on Feb. 6th, 1891: "As regards the general question, I am to state that it does not appear to the Board that the fact that a notice has been given under Subsection I. (*a*) of the Act relieves a medical practitioner from his obligation to give a notice under Subsection I. (*b*) of the Act, but that the Board cannot undertake to express any opinion as to the general expediency of enforcing such obligation under the circumstances mentioned in your letter."

7. *Certificates of Notification by Medical Officers of Health.*

In dealing with the subject of "multiple certificates relating to the same patient," we incidentally referred to a precedent which shows that a medical officer of health, when in attendance on cases of notifiable infectious disease, is bound, like any other practitioner, to draw up a notification certificate as to the case, and is equally entitled with any other practitioner to the fee for so doing. Some authorities have contended that they ought not to have to pay the notification fees to medical officers of health, but the Act makes no distinction between medical officers of health and other medical practitioners, and the letter from the Local Government Board which we have quoted shows that where a medical officer of health is "attending on or called in to visit the patient" he is entitled to his fee just as if he were an ordinary medical practitioner. The visit should, however, be definitely one of attendance on the patient and not one of inspection as health officer.

We do not pretend that in this series of articles dealing with Difficulties arising under the Infectious Disease (Notification) Act we have exhausted all the points as to which doubt has arisen or may arise. There must remain a number of difficulties which can only be solved by reference to the actual circumstances under which they have arisen, and there are others which, though they have general application, occur at such rare intervals that it hardly becomes necessary to deal with them in any general articles. But we trust that we have been able to supply information that will serve as a guide both to medical officers of health and to medical practitioners generally, and that the precedents we have quoted may save misunderstandings and difficulties that might otherwise arise. We conclude by once more stating that many difficulties would be avoided between the medical officer of health and the regular medical practitioner if the courtesies which are deemed essential in cases of consultation and other joint action between medical practitioners were always studiously observed on both sides in all matters relating to the notification of infectious diseases. That this view is strongly taken at Whitehall has already been made evident; it is one which we cordially endorse, and hence we conclude by again reminding all concerned that in the interpretation of the duties devolving on one and another medical practitioner under the Act in question it must be taken for granted that "the customs that usually govern the relations of medical practitioners to each other" will in all cases be observed. This being done, the remaining difficulties will be purely technical and will in no way involve professional considerations.

THE UNIVERSITY RIOTS IN ITALY.

HIS EXCELLENCY DR. BACCELLI, Minister of Public Instruction, has closed the University of Naples for the remainder of the academic year. This step is a summary one, but, on due consideration of the facts, justifiably so. A number of students having failed to pass their examinations in July, and having either declined to come up again or failed a second time, in the so-called "sessione de riparazione" conceded them in November, have insisted on a third opportunity being afforded them in March. The inconvenience of the "sessione primaverile" (spring session) thus demanded has already, on the occasions when it has been granted, proved intolerable, and the Senatus Academicus refuses to be coerced into making it an "institution." Other universities, equally with that of Naples, have voted it a nuisance, and, acting on the representations of the collective academic mind of Italy, Dr. Baccelli has suppressed all such "sessioni straordinarie," or supplementary sessions *simpliciter*. A number of the students in each seat of learning, but very far from a majority of them, have protested at this interference with their "rights." Their indignation has taken the form of violent interference with the business of the classes; professors have been insulted in their chairs and even outside the University precincts; and, in short, the insubordination in nearly all the faculties has been such that a period of absolute suspension of academic work has been judged necessary. That period may be long or short, according to circumstances. At Bologna, for instance, after a brief interval "for defervescence" the University was reopened. But in Naples, owing, doubtless, to the more excitable southern blood, a longer suspension has been found imperative, and, as already stated, the classes have been closed for the rest of the current *annus academicus*. In taking this step Dr. Baccelli has the approval of nearly all the heads of the educational world. Only in a few organs of very advanced opinion has there been the slightest note of censure. Why, it is asked, is the bad conduct of a section of the students to be visited with punishment by which all are the sufferers? A wise instinct has guided Dr. Baccelli in the step he has taken. It is this: the Universities must be removed from

State control and made, as in their bright mediæval foretime, autonomous. In other words, the "sensus communis" of the whole University body, including students as well as teachers, must give tone and law to its life and working. So long as that power was retained the well-conducted majority of the students made short work of their riotous fellows, and, in concert with the professorial or governing body, purged their ranks of the rowdy element. Far otherwise is it with the Italian universities as they have since degenerated. Under State control they are now dominated by political ideas, and no student, however insubordinate, is without the consciousness that he can find some friend in the Chamber of Deputies to make an interpellation in his behalf. Successive Ministers of Public Instruction, in fact, have, especially of late years, been hampered in every way by the power possessed by undergraduate organisation to get the ear of Parliament and make their grievances or claims "State questions." Under this system students are almost invited to become politicians, at an age, however, when their one and only concern should be their preparation for professional life. Concentration of thought and work is thus made next to impossible for all but those who have the moral strength to resist the surrounding contagion. All this Dr. Baccelli aspires to put an end to by a return to the condition of things which prevailed at Bologna, Pisa, Padua, and such like centres of academic culture at, and immediately after, the Renaissance. Let there be two distinct "spheres of influence" dominating the student's career. Let there be the examination for graduation, in which only the University shall have a voice. Secondary to that, let there be the examination by the State giving the right to practice. The former grants the *jus docendi*, the latter the *exerceat*. Full liberty to teach it is for the University to confer; but when it comes to bringing that teaching *en rapport* with the public—in other words, when the practitioner is brought into relation with the citizen—let the State see that the public have a duly qualified functionary, be he medical man or lawyer or engineer. By that time the University shall have done its work. The body of graduates, long past the stage at which youthful insubordination occurs, will, with a view to professional practice, be subjected to government examiners, who shall migrate from one university to another, and grant qualifications impartially and judiciously only after due cognisance of fitness has been taken. Such is Dr. Baccelli's ideal embodied in the rubric, "Torniamo alle antiche tradizioni" (let us return to the old traditions); and when his Bill, already formed, shall have passed into law we hope to witness a salutary reform in Italian academic life, under which such riots as have lately discredited it will become impossible, and such Draconian measures as that just applied to Naples a thing of the past.

SANITATION IN MASSACHUSETTS.

THE twenty-fifth annual report of the State Board of Health of Massachusetts, which refers to the year 1893, is a production of no mean size, and the subject matter of which it treats is dealt with in a thoroughly scientific spirit. The volume comprises 784 pages, exclusive of an excellent index, and amongst its valuable contents may be mentioned exhaustive reports on Water-supply and Sewerage, the Analysis and Filtration of Water, and an elaborate report on Infectious Disease Hospitals. The volume also contains an interesting account of a series of experiments made by Dr. Thomas Drown, chemist to the Board, on the Amount and Character of Organic Matter in Soils and its Bearing on the Storage of Water in Reservoirs. These investigations were carried on more especially in reference to the proposed storage reservoir for the city of Boston, as it was deemed expedient prior to forming the reservoir to obtain a thorough knowledge of the character of the soil so as to be in a position to determine how much soil it would be necessary to remove in order to procure a clean bottom and sides free from organic matter. The results obtained were, as was to be expected, somewhat irregular, but it was found generally that there was a rapid diminution in the amount of organic matter below a depth of nine to eleven inches, and at a depth of three feet the amount of organic matter was, as a rule, below 1 per cent. In order to render the observations more complete, samples of the soil were treated with water and the filtrates from the solution analysed. The watershed from which the several samples were taken was but sparsely populated, and the organic matter present mainly of vegetable origin. As a result of a very thorough examination of the effect of water upon the soils experimented with, Dr. Drown has provisionally fixed 1·5 to 2 per cent. of organic matter, as determined by the loss on ignition of the sample dried at 100° C., as the permissible limit of organic matter that may be allowed to remain on the bottom and sides of a reservoir. It is not possible for us here to deal in any way exhaustively with the Massachusetts report, but we may say that it does honour to those who compiled it, and we can conscientiously commend it to the notice of all students of sanitary science. There is one special feature which distinguishes this as well as all the later Massachusetts reports, and that is the completeness with which the writers deal with the statistical side of all such subjects which can be approached from a statistical standpoint. The notification of infectious disease was started at an early date in Massachusetts; indeed, it appears from the report before us that as far back as 1792 householders were required to report cases of dangerous infectious disease to the local authority, while in 1827 dual notification came into operation. An Act of 1893 has specified the diseases "dangerous to the public health," and these include measles, yellow fever, cerebro-spinal meningitis, hydrophobia, malignant pustule, leprosy, and trichinosis, in addition to most of the diseases required by our own Notification Act to be notified. We observe, however, that erysipelas and puerperal fever are not included among the diseases "dangerous to the public health." The report upon infectious disease hospitals, to which we have already referred, was compiled by Dr. S. W. Abbott, Secretary to the Board of Health, owing to oft-repeated demands on the part of local authorities for information upon the subject. Dr. Abbott points out how the increasing tendency of the population to congregate in cities favours the spread of infectious disease, and he shows that in 1840 the urban population of Massachusetts was but 27·1 per cent. of the population of the State, while in 1880 it was 58·4 per cent., and in 1890 69·9 per cent. As an illustration of the relation of this tendency to the mortality and in all probability to the prevalence of infectious disease the following very interesting table is given. The term "Dense" refers to districts where there is less than one acre to each inhabitant, "Medium" to those having more than one but less than four to each inhabitant, and where there are over four acres to each person the term "Sparse" is used.

Mortality from Eight Principal Infectious and Destructive Diseases in Dense, Medium, and Sparsely Settled Districts in Massachusetts, that of Dense Districts being taken as 1000.

—	Mortality from								
	All causes.	Measles.	Scarlet fever.	Diphtheria and croup.	Small-pox.	Cholera infantum.	Consumption.	Pneumonia.	Typhoid fever.
Dense... ...	1000	1000	1000	1000	1000	1000	1000	1000	1000
Medium ...	826	517	818	780	332	898	810	792	1109
Sparse ...	760	445	587	634	149	639	727	783	1175

It will be seen that, with the exception of typhoid fever, there appears a direct relation between density of population and mortality. Dr. Abbott, in dwelling on the advantages of hospital accommodation, points out that where it obtains, the ordinary duties of the household, attendance at school, and the support of the family by the wage-earner can be carried on without disturbance. During the twenty years 1871–1890 the deaths from measles, scarlet fever, diphtheria, croup, and typhoid fever amounted altogether to 74,597; and Dr. Abbott remarks, in regard to these figures, that if the usually observed case mortality of the several diseases was maintained there would have been some 700,000 cases of these diseases during the twenty years; and he considers that, had proper isolation provision been in existence from 1871, a very material proportion of this illness and mortality

might have been prevented. In dealing with hospital construction and management, Dr. Abbott quotes largely from Dr. Thorne Thorne's standard work on the "Use and Influence of Hospitals for Infectious Disease," and it is impossible to read without a feeling of national satisfaction that "hospitals for infectious disease have reached their highest type of development in England." In the report before us plans of pavilions both of the Boston and Cambridge infectious disease hospitals are given. In the former case the arrangement differs materially from those usually found in the more modern fever hospitals in England, and in both cases there are no annexes for cutting off aerially the waterclosets, &c., from the wards. In an appendix to his report Dr. Abbott reviews the practices of different countries in regard to hospital provision, and his report generally serves in an excellent manner the purposes for which it was intended.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on the 7th inst., the President, Mr. J. W. Hulke, F.R.S., being in the chair.

The Council approved the following resolution, which had been adopted by the Court of Examiners on Jan. 28th, 1895, in consequence of having been called upon by the Council to take into consideration the arrangements for admitting visitors to the examinations:—

"The Court of Examiners, having considered the question of the admission of visitors to the final examination for the Fellowship, are of opinion that for the present it will be sufficient if a notice is handed to each visitor on his arrival, in the following terms—namely, 'Visitors are requested not to approach too closely to the candidates while the examinations are in progress, and to refrain from examining patients in close proximity to the examiners.'"

Mr. J. McCarthy and Mr. Edmund Owen were elected members of the Court of Examiners' section of the Board of Examiners in Dental Surgery.

The Council proceeded to the further consideration of the resolution carried at the meeting of Fellows on Jan. 3rd requesting the appointment of a conjoint committee, and resolved: "In accordance with the opinion of the legal adviser of the College the Council do not deem it expedient to accede to the resolution passed at the meeting of the Fellows held on Jan. 3rd."

It was further resolved: "That a committee of the Council be appointed to receive deputations from the Fellows of the College upon the subject of the resolution of the meeting of Fellows of Jan. 3rd last and to report thereon to the Council." Copies of these resolutions were directed to be sent to the mover (Mr. W. H. Bennett) and the seconder (Mr. T. Holmes) of the resolution at the meeting of Fellows.

A letter was read, dated Jan. 30th, from Mr. W. G. Dickinson requesting by desire of the committee of the "Society of Members of the Royal College of Surgeons of England," that the following resolution might be laid before the Council—viz.:

"That in the event of the Council of the College consenting to form a joint committee, composed of Members of their own body and of that of the Fellows, to consider the desirability of applying for a new Charter they are hereby requested to add some representatives of the Members to the same committee."

In reply, the Council directed that copies of the two resolutions just passed should be sent to Mr. Dickinson.

A further communication was read from the Committee of the Society of Members, giving the reasons of the Society for opposing before the Home Secretary the proposed alterations in the bylaws.

The Council left it to the President to determine whether a meeting of the Council should be held in March. The date of the quarterly meeting in April was fixed for Thursday, the 4th.

WE learn that the Eighth Universal Cookery and Food Exhibition is to be held at the Portman Rooms, Baker-street, from May 7th to 10th inclusive. Cookery competitions will be held and £200 awarded in special prizes as well as medals and diplomas, while half the profits of the exhibition will be devoted to the providing of meals for poor children.

ST. THOMAS'S HOSPITAL.

A MEETING in aid of the special appeal fund for the purpose of opening the closed wards in St. Thomas's Hospital was held in the Egyptian Hall of the Mansion House, London, on Wednesday, Feb. 13th. In the absence of the Lord Mayor, Sir Joseph Renals, his predecessor, Sir Stuart Knill, K.G., presided, and was supported by H.R.H. the Duke of Connaught, president of the hospital. Amongst those present were the Earl of Leven and Melville, the Bishop of Southwark, Mr. Alderman and Sheriff Samuel, Mr. Sheriff Hand, Sir William Mac Cormac, Sir Henry Doulton (senior almoner of the hospital), the Rev. Newman Hall, D.D., the Rev. David MacEwan, Mr. A. O. MacKellar (senior surgeon to the hospital), Dr. J. F. Payne, Mr. F. A. Bevan, and the treasurer, Mr. J. G. Wainwright. Letters of apology were read from the Archbishop of Canterbury) who referred to the growing population of South London and its dependence upon St. Thomas's Hospital for medical aid, which day by day grew more important), the Bishop of Rochester, Duke of Rutland, Lord Selborne, Lord Rothschild, Duke of Devonshire, and Sir Sydney Waterlow. A sympathetic letter was also read from Miss Nightingale, in which she called attention to the moral effect of residence in the wards of St. Thomas's Hospital upon a patient's life.

Sir STUART KNILL, in calling upon his Royal Highness the Duke of Connaught to propose the first resolution, said the citizens of London looked upon St. Thomas's Hospital as essentially their own institution, and it was their duty to take the initiative in commencing to replace that hospital in its proper position. The wards were not closed through bad management, but through the failing of the hospital funds from the great agricultural depression.

The Duke of CONNAUGHT then moved: "That this meeting has heard with sincere regret that notwithstanding the large increase in the population of South London, and the consequent greater demand for hospital treatment, there are several wards in St. Thomas's Hospital lying empty and unused owing to the income of the charity not proving sufficient to maintain a greater number of beds than those now in use (436)." In supporting his motion his Highness referred to the appeal that he had already addressed to the public and hoped they would believe that it was thoroughly genuine, thoroughly open, and contained all the secrets connected with this important hospital. He referred to the important work done in connection with St. Thomas's hospital by Miss Nightingale, which had had such a wide influence on nursing throughout the country, and he then briefly traced the history of the hospital from its foundation in 1551 to the present day. It was said by some people that they would not support the hospital because in incurring their enormous expenses they had followed the fads of the medical men. That was not so, and he did not believe that the general public held such an opinion. Since 1871 the population around the hospital had increased from 644 000 to 961 000 in 1891, and at the present time it was upwards of 1 000,000. The number of patients admitted to the wards in 1894 was 5840, and they stayed on an average 22·7 days under treatment. There were also 24 082 out-patients and 82 782 casualty patients who received attention. Out of the Samaritan Fund 670 persons were given assistance at a cost of £1159 12*s.* 9*d.*, 400 cases being sent to convalescent homes and the remaining 270 being aided in various ways, such as being supplied with surgical appliances, grants of money to redeem tools and clothing from pawn, and for travelling. He confidently looked to the public to support an institution that was capable of such vast work—an institution which was really one of the most deserving in the country.

The Bishop of SOUTHWARK, who seconded the resolution, said he believed it fundamentally better to have a few great centres of hospital work than a number of smaller ones.

Sir WILLIAM MAC CORMAC testified to the important work done by the hospital, remarking that it would be nothing short of a national scandal if the hospital were allowed to remain in its present state.

The Rev. Dr. NEWMAN HALL supported the motion, which was carried unanimously.

On the motion of the Earl of LEVEN and MELVILLE, in the absence of Sir Albert Rollit, M.P., the following motion was supported by Dr. J. F. PAYNE and the Rev. DAVID MACEWAN, and carried: "That taking into consideration the

noble work accomplished by the hospital since its foundation in 1551, both as a medical charity and also as one of the leading schools of medicine and surgery in the kingdom, this meeting views with considerable alarm the falling off of its income from country estates, and records its opinion that an effort should be made to obtain the sum of £100,000, with the view of enabling the at present closed wards to be opened for the free treatment of the poor of this great metropolis."

Alderman Sir STUART KNILL proposed the following resolution: "That, bearing in mind that originally the hospital was placed by King Edward VI. under the fostering care of the mayor, commonalty and citizens of London, the great City Guilds and the citizens of London generally be specially invited to consider the importance of supporting this appeal."

Sir HENRY DOULTON seconded and Mr. F. A. BEVAN supported the resolution, which was carried.

Before proposing a vote of thanks to the Lord Mayor for the great interest he had shown in the prosperity of St. Thomas's Hospital, Mr. J. G. Wainwright (treasurer of the hospital) gave some statistics showing the loss the hospital had sustained through the great agricultural depression. A farm from which the hospital a few years ago was receiving £1270 per annum, and upon which £2000 had been expended, was three weeks ago let for £385. Another farm had depreciated from £1320 per annum to £600 and others from £637 to £221, from £250 to £100, from £406 to £200, from £381 to £100, from £280 to £200, from £600 to £330, and from £780 to £449. The hospital was rated by the parish at £2450. Although they paid the parish these enormous rates over 2000 maternity cases were attended to for the parish. There was not the slightest ground for the rumour which had been started with reference to the unsanitary condition of the buildings, and Mr. Wainwright read a letter from the surveyor to this effect.

Mr. A. O. MACKELLAR seconded the vote of thanks to the Lord Mayor, and the usual courtesies to the chair brought the meeting to a close.

The receipt of the following donations towards the £100,000 asked for were announced during the course of the meeting: Her Majesty the Queen, £100; Duke of Devonshire, 100 guineas; Miss Florence Nightingale, £100; and Mr. Deputy Creasy, 10 guineas. A working man—a former patient—sent a donation of 5*s*.

THE LONDON COUNTY COUNCIL AND CORONERS' INQUESTS.

AT the weekly meeting of the London County Council, held on Tuesday afternoon, the adjourned report of the Public Control Committee on the subject of coroners' inquests was discussed at some length. The following recommendations, the first six of which are, *ipsissima verba*, the suggestions of Sir Walter Foster's Select Committee upon Death Certification, were submitted:—

(*a*) That in no case should a death be registered without production of a certificate of the cause of death, signed by a registered medical practitioner or by a coroner after inquest.

(*b*) That a medical practitioner in attendance should be required, before giving a certificate of death, to personally inspect the body and identify it as the body of the person he has attended, and should include in his certificate a statement pointing to the absence of accident, poison, violence, or criminal neglect.

(*c*) That a form of certificate of death should be prescribed, and that in giving a certificate medical practitioners should be required to use such form.

(*d*) That medical practitioners should be required to send certificates of death to the registrar instead of handing them to the representatives of the deceased.

(*e*) That it should be made a penal offence to bury or otherwise dispose of a body without an order from the registrar stating the place and mode of disposal, which order, after it has been acted upon, should be returned to the registrar who issued it.

(*f*) That it should be made an offence to retain a dead body unburied or otherwise legally disposed of beyond a period not exceeding eight days, except by permission of a magistrate.

(*g*) That the certificate should be endorsed by the burial authority, with the date of interment or disposal and the place where the body is buried, and returned to the registrar by the burial authority.

(*h*) That when the medical practitioner is unable to certify he should be required to report direct to the coroner. Relatives, friends, and others having cognisance of suspected cases should also be required to report them to the coroner.

(*i*) That every case of death after surgical operation should be reported to the coroner with a view to preliminary inquiry, and if necessary the holding of an inquest.

(*j*) That medical investigators should be appointed: (1) To inquire into causes of all uncertified deaths, assisted by qualified and responsible inquiry officers. (2) To examine the body in all such cases, and make post-mortem examinations where necessary. (3) To report the results to the coroners sitting in court, who will then decide as to the necessity for holding formal inquests. (4) To give evidence at inquests and act as medical advisers to the coroners.

(*k*) That London should be divided into districts so arranged as to give approximately equal amount of work, and that coroners be paid by salary, not dependent on the number of inquests held.

(*l*) That franchise districts should be abolished.

(*m*) That a court or courts should be provided for each district, with a coroner, clerk, inquiry officers, and other necessary officials as in police courts.

(*n*) That one or more medical investigators should be attached to each court and be paid by salary.

(*o*) That the office of deputy coroner should be abolished as unnecessary in London.

(*p*) That inquests should be held and evidence taken by the coroners in all cases where the reports of the medical investigators show further inquiry to be necessary, and in all cases of violent or suspicious death.

(*q*) That viewing the body, except by the medical investigator and for purposes of identification, should no longer be obligatory.

(*r*) That the number of jurymen should be reduced to one-half of the present number—i.e., to not less than six or more than eleven.

(*s*) That in cases involving subsequent criminal proceedings, such as murder or manslaughter, or other criminal offence, the coroner should have full power to commit, and to bind over all witnesses; and further investigation by magistrates in such cases should not be required.

(*t*) That proper records of all cases dealt with by the court, whether inquests be held or not, should be kept as records of the county.

(*u*) That the court should have jurisdiction in cases where the body is lying in the district to which it is attached, except in cases of accident &c. where more than one death has taken place, when the jurisdiction shall be with the court for the district in which such accident &c. occurred.

(*v*) That the committee be authorised to attend as a deputation before the Lord Chancellor in support of the amendment of the law relating to coroners' inquests in the county of London in accordance with these recommendations.

All these clauses were adopted as submitted, save that to clause (*b*) words were added to the effect that "coroners should be required to accept evidence from representatives of the families of the deceased where it is alleged that death has been caused by accident"; and that to clause (*r*) words were added to the effect that "the Public Control Committee be instructed to urge the advisability of paying jurymen a sum sufficient to compensate a workman for the actual loss of time incurred in performing the duty, and of making it compulsory that coroner's juries should be summoned by rota." With the majority of these points we have dealt at different times, so that our readers are familiar with our views; but we shall return to the subject next week.

Public Health and Poor Law.

SCOTCH URBAN MORTALITY IN 1894.

LOWEST DEATH-RATE ON RECORD.

ABOUT 36 per cent. of the population of Scotland reside in the eight principal towns, which are estimated to have contained 1,482,962 inhabitants as at the middle of 1894, the computed enumeration of all Scotland at the same date being 4,124,691. We have gone through the laborious process of piecing together the items in the Scotch Registrar-General's monthly returns applicable to these eight cities, and we now present the results for the whole of last year. The combined registration area of these eight chief towns is 40,340 acres, giving an average of 36 330 persons to an acre. In round numbers there are only 14 persons to the acre in Perth, 19 in Aberdeen, and 20 in Paisley; while in Leith the density of the population rises to 35 per acre, Dundee coming next with 38, Greenock with 43 Edinburgh with 44, and Glasgow with 60. The estimated population of Glasgow is 686,820; of Edinburgh, 270.588; Dundee, 158,719; Aberdeen, 131,642; Leith, 72,003; Paisley, 70,363; Greenock, 62,400; and Perth, 30,232. With regard to climatic conditions, on striking a balance for a whole year the average state of matters may be considered as practically the same for the whole of the eight towns.

In these eight towns together there occurred last year from all causes 28,110 deaths. Of these, 14,145 were those of males and 13,965 those of females. The general mortality was thus, notwithstanding the increase of population, below that for 1893, which amounted to 31,806 (males, 15,979;

females, 15,827). Not only was it absolutely lower, but when the increase of population is taken into account the diminution becomes more conspicuous. Last year the total deaths in the eight towns combined were at the rate of only 191 per 10,000 of their estimated gross population, while in the year previous the rate was 217. For lowness of death-rate last year breaks the record, which extends back for forty years—viz., to 1855, the first year under the Registration Acts for Scotland. The year 1888, with 193 deaths per 10,000 inhabitants, is next lowest. The worst year on record of the whole forty was 1864, with 307 deaths per 10,000 of population. In each of the months of last year the deaths, allowing for greater population, were below the average for the corresponding month during the last ten years. The 23,110 deaths were divided among the different months as follows: January, 2846; February, 2310; March, 2524; April, 2405; May, 2409; June, 2165; July, 2021; August, 1939; September, 1784; October, 2335; November, 2592; December, 2780. Keeping in view that February was three days shorter than October, it will be seen that the mortality was heaviest in the cold months—viz., January to March inclusive, November and December. The first quarter of the year shows 1936 deaths more than the third quarter. The fall in the number of deaths in the third quarter, as compared with the first, applies to all the age divisions, the infant class (under five) benefiting by 896, the adolescent (five to twenty) by 58, the adult (twenty to sixty) by 538, and the aged (sixty and upwards) by 444. Summer was therefore most salubrious for all ages. January, "the coldest month in all the year," is usually the most fatal, being especially severe on the aged and on very young infants. Last year proved no exception. Of the 23,110 deaths, 10 448 were those of children under five years of age (including 6163 infants under one year old), 2519 those of adolescents, 9212 those of adults, and 5931 those of aged persons. The infantile mortality (0–5) was higher in December than in any other month of the year, being 43·8 per cent. of the whole deaths for that month. Over the whole year it constituted 37·17 per cent. of the gross mortality of the eight towns. The most disastrous month for the aged was January, which witnessed the departure of 650 persons 60 years of age and upwards. September and August had the lowest record in this class—viz., 416 and 417 respectively. No centenarians died during the year; but 85 persons between 90 and 100 years of age joined the majority. Females as usual show most vitality, 63 of these 85 nonagenarians being women, while only 17 were men. Two widows are said to have each been 99 years of age at death.

The 23,110 deaths were distributed as follows, the towns being given in the order of their population: Glasgow, 13,674; Edinburgh, 4745; Dundee, 2992; Aberdeen, 2454; Leith, 1213; Paisley, 1258; Greenock, 1200; Perth, 574. The estimated population of each of the eight towns is given above. Making the necessary calculations, we find that the death-rate for last year per 1000 of estimated population was, in Leith, 16·84; Edinburgh, 17·53; Paisley, 17·87; Aberdeen, 18·64; Dundee, 18·85; Perth, 18·86; Greenock, 19·23; and Glasgow, 19·90. For the previous year Aberdeen took the most favourable position with 18·47, followed by Leith with 19·10 and Edinburgh with 19·68, Glasgow showing the highest ratio—namely, 23·30. The death-rate for 1894 was lower than that for 1893 in all the eight towns except Aberdeen, which lost its position owing to the heavy mortality there in December last, arising chiefly from an extensive epidemic of measles and the prevalence of bronchitis. Taking the mean of the ten years 1883-92, Edinburgh, Leith, and Perth, with 1·97 deaths per cent. of population, were the healthiest towns, Aberdeen coming next with 2·00, followed by Dundee with 2·13, Greenock 2·21, Paisley 2·34, and Glasgow with 2·43. In every hundred of the total deaths in Edinburgh and Perth last year about 31 were those of children under five years of age, the rate in Paisley and Leith being 36 fully, in Greenock nearly 38, in Glasgow almost 39, in Aberdeen a little above 39, and in Dundee somewhat under 40. These rates are all lower than in the previous year, except as regards Aberdeen, which shows a rise of 7 per cent., due in great measure to the measles epidemic referred to.

Of the 23,110 deaths 3853 arose from specific febrile or zymotic diseases, 6 from parasitic diseases, 114 from dietetic diseases, 5616 from constitutional diseases, 1890 from developmental diseases, 14,383 from local diseases, 1051 from violence, and 1192 from insufficiently specified causes. To refer more particularly to diseases, there were 2913 of the deaths from miasmatic diseases, 518 from diarrhœal, 10 from malarial, 1 from zoogenous, 124 from venereal, and 32 from septic diseases; 3201 from diseases of the nervous system, 59 from diseases of organs of special sense, 2479 from diseases of the circulatory system, 5434 of the respiratory system, 1917 of the digestive system, 28 of the lymphatic system and ductless glands, 777 of the urinary system, 105 of the organs of generation, and the same number from diseases of parturition, being together 210 from diseases of the reproductive system, 189 from diseases of the organs of locomotion, and 94 from diseases of the integumentary system. Last year owes its low death-rate to a great extent to the small number of deaths from zymotic diseases. As stated, only 2913 deaths arose from miasmatic diseases, showing that there were few serious epidemics. The diarrhœal deaths occasionally affect the summer mortality materially, but during the whole of last year there were only 9 deaths from simple cholera and 509 from diarrhœa and dysentery together, fatal cases of the two latter being most numerous (88) in August, when also 6 of the deaths from simple cholera happened. Last year there were in the eight towns collectively 113 deaths from small-pox, as against 40 only in 1893. Of these 113, 57 deaths occurred in Edinburgh, 48 in Leith, 5 in Glasgow, and 1 each in Dundee, Aberdeen, and Greenock. Whooping-cough prevailed most extensively from January to May inclusive, carrying off 1110 persons, nearly all children under five years of age, as against 1111 for the previous year. Diphtheria caused 472 deaths, as compared with 424 in 1893. Scarlet fever had 350 deaths ascribed to it last year, as contrasted with 400 in the preceding year, and measles caused only 420 deaths in 1894, compared with 1535 in 1893. There were few deaths last year from this cause until the month of December, when measles became epidemic in Aberdeen and Glasgow. The deaths from influenza fell from 291 in 1893 to 147 last year. Typhoid fever tends to diminish in the towns, but infection is often conveyed into them by milk from country districts. Last year the deaths in the eight towns from enteric fever numbered 255, compared with 279 the year before. Typhus fever, from the exertions to prevent overcrowding, has become almost unknown. Only 19 deaths were due to that cause in 1894 and 35 in 1893. The mortality from puerperal fever last year was 112. Directly caused by intemperance were 87 deaths last year and 116 in the year previous; of these 87, 73 were ascribed to chronic alcoholism and 14 to delirium tremens. Pulmonary phthisis, or consumption, was the deadliest disease, cutting off 3019, principally young people, there being 2902 from the same evil in the previous year. The relative frequency of phthisis last year is as follows: in Perth the mortality was at the rate of 16·10 per 10,000 inhabitants; Paisley, 16·48; Edinburgh, 17·00; Aberdeen, 18·00; Leith, 19·30; Greenock, 20·99; Dundee, 21·23; and Glasgow, 22·58. In 1893 the highest mortality from phthisis occurred in Paisley, Edinburgh, Aberdeen, Leith, and Perth. Among the other constitutional diseases cancer is the most fatal. Last year there were 1119 deaths from that cause, being a rise of 82 on the previous year. In 1893 cancer was most marked in Edinburgh, Aberdeen, and Leith. Last year's figures show great divergences as to the relative prevalence of the disease in the various towns. In Perth the mortality from cancer was only 4·60 per 10 000 inhabitants, and in Paisley it was 4·97; but in Greenock it was 5·93; in Leith, 6·25; Glasgow, 6·77; Dundee, 7·43; Aberdeen, 8·29; and in Edinburgh 10·94. The high ratio in Aberdeen and Edinburgh, especially the latter, is noticeable, keeping in view the 1893 result. From affections of the respiratory organs (not including pulmonary phthisis and whooping-cough, which have been already mentioned as included in other classes) there were 5434 deaths last year. This figure includes 2457 deaths from bronchitis, which in the year before claimed 2978 victims, and was the most fatal individual disease for that period. In Aberdeen last year bronchitis cut off 19·52 per 10,000 inhabitants, the ratio in Dundee being 18·84, in Glasgow 16·80, in Edinburgh 14·59, and in Leith 12·36. There succumbed to pneumonia last year in the eight towns collectively 2158 persons, as compared with 2640 in 1893. In Edinburgh last year the deaths from pneumonia were at the rate of 11·53 per 10 000 of population, in Aberdeen 11·69, in Leith 11·94, in Dundee 16·38, and in Glasgow 16·44; while in the previous year Edinburgh, Glasgow, and Dundee had the highest ratios. Croup is responsible for 297 deaths in 1894. Heart diseases are accountable for 2479 deaths last year, the mortality from diseases of the circulatory system in 1893 having been 2347. January gave the most fatal monthly record in 1894

under this head. The 2479 deaths include 2065 from endocarditis, the monthly mortality from which varied from 203 in January to 123 in September, August being the next lowest with 139. Last year the deaths from valvular disease of the heart were at the rate of 8·50 per 10,000 of population in Aberdeen, 13·29 in Dundee, 13·30 in Greenock, 13·35 in Glasgow, 14·99 in Leith, 15·34 in Edinburgh, 15·35 in Paisley, and 16·43 in Perth.

In Glasgow last year there were registered the deaths of 2940 children under one year of age, 906 in Edinburgh, 759 in Dundee, 621 in Aberdeen, 294 in Leith, 273 in Paisley, 268 in Greenock, and 107 in Perth. The cause of death in 303 of these 6168 cases was certified as being premature birth debility. Thirty children under five were suffocated in bed, and 15 suffocated otherwise during the year. Last year there were 963 deaths due to apoplexy, and the cause of 578 others is given as "hemiplegia, brain paralysis." "Old age" simply is put down as the cause of 916 deaths, January giving the largest contribution (100) of any of the months, and August (54) and July (59) the lowest; 981 deaths were due to accidents or negligence, being rather more than in the previous year, when these numbered 969. Six persons lost their lives by "homicide." There were no executions, but 64 persons committed suicide last year. "Debility, atrophy, inanition" is given as the cause of 929 deaths, of which 460 were those of children under five years of age. There occurred last year 136 deaths from causes not specified.

The urban mortality for 1893 was low, principally owing to there being few epidemics. That for 1894 is lower still, partly owing to a similar absence of zymotic diseases, including influenza. Further, the heat in the summer months was not great, and there were frequent rainfalls. As to the winter, although January was stormy and colder than usual, there was an absence of "hard" weather in February, and the mean temperature in March was above previous averages. Generally speaking the decrease in the death-rate is evidence of the earnest work carried out by sanitary officers and authorities to promote the public health.

ENTERIC FEVER MORTALITY IN 1893.

THE recrudescence of enteric fever mortality in 1893 was one of the most notable features in the statistics for that year dealt with in the Registrar-General's annual report recently issued. The annual death-rate from this disease in England and Wales, which was equal to 326 per million in the ten years 1871–80, declined to 193 in the succeeding ten years 1881–90, the largest decline occurring in the latter part of that decade. The rate was 236 per million in 1884, but was below 200 in each of the six years 1885–90. In 1891 and 1892 the rate further fell to 168 and 137; whereas in 1893, probably under the influence of the long drought and high temperature, the enteric fever death-rate rose again to 229, a higher rate than in any preceding year since 1884, when it was 236 per million. The rate from this disease in the various English counties showed remarkably wide variations. The lowest rates per million were 58 in Wiltshire and Oxfordshire, 66 in Buckinghamshire, and 73 in Berkshire. Even in the vast urban population of London the rate did not exceed 160 per million and was 69 below the mean rate in the whole of England and Wales. The highest rates were 320 in Lancashire, 326 in the North Riding of Yorkshire, 448 in Sussex (due to the disastrous epidemic in Worthing), 487 in the East Riding of Yorkshire, and 565 in Durham. In seven other counties and in South Wales the rate exceeded the mean rate in England and Wales. The remarkable fatality of this disease in a group of registration districts situated for the most part in Durham, but also extending into Northumberland and into the northern parts of Yorkshire, to which especial attention had been directed in the Registrar-General's reports for 1890, 1891, and 1892, showed a further increase in 1893. The enteric fever death-rate in this group of eighteen registration districts was equal to 395 per million in 1890; it fell to 301 and 181 in 1891 and 1892, but rose to 480 per million in 1893, and was more than double the mean rate in England and Wales in the same year. The excess of the rates in some of these registration districts in 1893 calls for special notice. The rate was 510 in Middlesbrough, 693 in Chester-le-Street, 836 in Sunderland, 977 in Auckland, 1112 in Easington, and 1163 in Houghton-le-Spring. Taking the mean rate in the four years 1890–93, the highest rates were 526 in Auckland, 540 in Stockton, 544 in Houghton-le-Spring, 559 in Easington, and 633 in Middlesbrough. Such rates, from a preventable disease like enteric fever, during a period of four years, call for the active intervention of the central health authority, since it affords abundant evidence of ineffective and negligent local sanitation. A local epidemic of enteric fever of four years' duration should be recognised in the present day as conclusive condemnation of the sanitary authority charged with the health responsibility for the district. We venture to hope that the terrible figures from the Registrar-General's last annual report to which we have called attention will serve to awaken the sanitary authorities of the county of Durham to the urgent need for vigorous action with a view to check this scourge of enteric fever prevalence which caused so heavy a rate of death and suffering during the four years 1890–93.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Derbyshire County Sanitary District.—The vital statistics of this administrative county, which contained at the last census 426,768 persons, are well set forth by Dr. Sidney Barwise in the accompanying table.

District.	Rates per 1000 of population.			Deaths of children under one year to every 1000 births.
	Births.	Deaths from all causes.	Deaths from seven chief zymotics.	
Rural districts of Derbyshire ...	34·8	16·6	1·8	129
Urban districts of Derbyshire ...	35·7	18·9	2·4	171
Whole administrative county	35·3	17·5	2·1	149
England and Wales...	30·8	19·2	2·47	159

The statistics in reference to small-pox and vaccination we have already noticed in our columns.[1] There were 105 deaths from measles in the county during 1893, and Dr. Barwise advises that some arrangement should be made by which the school attendance officers should notify to the medical officers of health cases of measles which they come across in the course of their duties. Out of the whole population of the county there are still 55,304 to whom the Notification Act does not at present apply. Dr. Barwise has presented to the county council an exhaustive report on the hospital provision of the county, and he points out that in 1893 only 1 per cent. of the scarlet fever cases were removed to hospital, 3·7 per cent. of typhoid fever cases, and not a single case of diphtheria. The whole county has been mapped out into twelve hospital districts, and Dr. Barwise calculates that by erecting twelve hospitals in suitable positions 421,000 of the population of the county would be within eight miles of a hospital, and all the urban districts and workhouses within six miles. There are at present but two steam disinfectors in the county, and the provision of an apparatus at each proposed hospital would serve the requirements of each hospital district. Much progress in the matter of sewage purification is being made throughout the county, and Dr. Barwise is making systematic examination of the rivers in order to be in a position to compare their subsequent condition with the present. The analyses already made of the Derwent are very interesting, the river showing a gradually increasing amount of free and albuminous ammonia as far as Derby, but after this town has been passed the organic matter is more than doubled.

Stapleton Urban Sanitary District.—Small-pox was the disease with which Dr. William Brown had chiefly to deal during 1894, and it seems that the vast majority of the cases occurred in Barton Regis workhouse and Eastville, the district abutting upon the workhouse. Special means of isolation have since been provided by the sanitary authority, and Dr. Brown expresses the hope that for the future there will be no especial incidence of small-pox upon the workhouse and the district adjoining it.

Kingston upon Thames Urban Sanitary District.—Mr. Beale Collins, in his annual report for 1894, devotes considerable space to a consideration of the proposed extension of the borough boundaries, so as to include the ecclesiastical parishes of Kingston and Ham. He discusses the manner in

[1] THE LANCET, Feb. 2nd, 1895.

which such extension would modify the present age, sex, and class distribution of the borough, and thus affect the birth, death, and disease rates. In dealing with the arrangements for isolation accommodation Mr. Collins shows that much advantage both as regards efficiency and economy would be gained by providing one large hospital for the whole district instead of several small ones. In short, Mr. Collins thinks that an amalgamation such as that proposed will be likely to afford the sanitary authority "greater facility in dealing with outbreaks of disease, and to give the best practical working scheme for draining the whole of the district." In the matter of vaccination Mr. Collins suggests, among other things, that all persons having conscientious scruples against vaccination should be compelled to register themselves and their families as unvaccinated, and that only by this means should they be exempt from prosecution for non-vaccination; he also suggests that all persons registering themselves as vaccinated or revaccinated should receive a small fee in return for services rendered to the State. Mr. Collins thinks that some such regulations as these would ensure a thorough vaccination of the community with little or no increase of expenditure, "as the vaccination officers could be almost entirely dispensed with and small-pox hospitals would not be required." We must confess we are not so sanguine as Mr. Collins as to the good effect of the means he proposes, and we think that the possibility of evading vaccination by registration would be widely taken advantage of, so much so indeed that small-pox hospitals would be as much a necessity as at the present time.

Aston Manor Urban Sanitary District.—Mr. Henry May is always prompt in the compilation of his annual reports, and that now before us is one of the earliest we have received for 1894. The general death-rate for the year in question was but 14 per 1000, the lowest on record for the last twenty-one years with the exception of 1885, when the rate was 13·9. The Warwickshire County Council, adverting to Mr. May's report for 1893, wrote to the Aston urban sanitary authority expressing their opinion that no charge should be made for the admission of patients to the fever hospital. The Aston sanitary authority, however, apparently resented this action on the part of the county council, and replied that they were unaware of any case where admission had been refused and that it was their practice to excuse the fee in the case of patients being unable to afford it. Experience has certainly shown that charges for admission to the general wards of a fever hospital are undesirable, but perhaps this is a question which may on the whole be left to the discretion of local authorities.

Kettering Urban Sanitary District.—The general death-rate of this district during 1894 was 14·9 per 1000 and the zymotic death-rate 2·4 per 1000. Phthisis has, Mr. Winter Dryland reports, claimed fewer victims in Kettering in proportion as new factories with improved methods of ventilation and more air space have sprung up; but it seems that in a large number of cases pneumonia and bronchitis have occurred in newly erected houses occupied before the walls were perfectly dry. In referring to infantile mortality Mr. Dryland points out that, if the mothers of Kettering would be guided by their medical attendants as to the feeding of their infants, many lives might be spared. Many of the cases of scarlet fever which occurred during 1894 were, Mr. Dryland states, followed by rheumatism, and he attributes this to want of care during slight attacks. There seems to be a good prospect of a joint fever hospital being shortly procured by the Kettering urban and rural district councils.

Mirfield Urban Sanitary District.—In his annual report for 1893 Mr. Thomas Fairclough states that the water-supply of the district has been abundant notwithstanding the exceptionally dry spring and summer. He reports, however, that it is still necessary to draw off the water which has been standing in the lead service pipes and also to filter it through a charcoal filter before drinking, as the water still retains the power of acting upon lead. He advises that the use of lead service pipes should be discontinued. Mr. Fairclough cannot understand why the Huddersfield corporation are "so obstinate in this water question," as it must eventually be faced and dealt with.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6870 births and 4210 deaths were registered during the week ending Feb. 9th. The annual rate of mortality in these towns, which had been 18·7 and 19·7 per 1000 in the two preceding weeks, further rose last week to 20·7. In London the rate was 21·0 per 1000, while it averaged 20·4 in the thirty-two provincial towns. The lowest rates in these towns were 13·5 in Derby, 14·5 in Leicester, 15·0 in Bradford and in West Ham, and 15·2 in Gateshead; the highest rates were 23·8 in Birkenhead, 24·0 in Plymouth, 24·8 in Manchester, 27·1 in Bolton, and 30·9 in Liverpool. The 4210 deaths included 312 which were referred to the principal zymotic diseases, against 328 and 299 in the two preceding weeks; of these, 78 resulted from whooping-cough, 67 from diphtheria, 56 from measles, 39 from diarrhœa, 36 from "fever" (principally enteric), 32 from scarlet fever, and 4 from small-pox. No fatal case of any of these diseases occurred last week in Swansea; in the other towns they caused the lowest death-rates in Bristol, West Ham, Bradford, Leeds, and Hull, and the highest rates in Croydon, Blackburn, Manchester, Gateshead, and Plymouth. The greatest mortality from measles occurred in Croydon, Plymouth, Bolton, Preston, and Halifax; from whooping-cough in Plymouth, Oldham, Burnley, Blackburn, and Gateshead; and from "fever" in Birkenhead and Gateshead. The mortality from scarlet fever showed no marked excess in any of the large towns. The 67 deaths from diphtheria included 34 in London, 5 in Birmingham, 5 in Manchester, 3 in Wolverhampton, and 3 in Liverpool. Three fatal cases of small-pox were registered in London, and 1 in Derby, but not one in any other of the thirty-three towns. There were 56 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 9th inst., against 32, 35, and 51 at the end of the three preceding weeks; 18 new cases were admitted during the week, against 6, 8, and 21 in the three preceding weeks. The number of scarlet-fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1667, against 1653, 1662, and 1653 on the three preceding Saturdays; 149 new cases were admitted during the week, against 154, 186, and 160 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 324 and 377 in the two preceding weeks, further increased last week to 480, and slightly exceeded the corrected average. The causes of 86, or 2·0 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Cardiff, Leeds, Sunderland, and in six other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 28·3 to 23·9 per 1000, rose again to 26·2 during the week ending Feb. 9th, and exceeded by 5·5 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 17·5 in Dundee and 20·5 in Edinburgh to 26·0 in Greenock and 32·4 in Glasgow. The 757 deaths in these towns included 27 which were referred to whooping-cough, 26 to measles, 8 to diarrhœa, 7 to diphtheria, 6 to "fever," 4 to scarlet fever, and 3 to small-pox. In all, 81 deaths resulted from these principal zymotic diseases, against 92 and 89 in the two preceding weeks. These 81 deaths were equal to an annual rate of 2·8 per 1000, which was 1·3 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 18 and 25 in the two preceding weeks, further rose to 27 last week, of which 20 occurred in Glasgow. The deaths referred to measles, which had declined from 58 to 37 in the four preceding weeks, further fell to 26 last week, and included 10 in Glasgow, 9 in Aberdeen, and 4 in Edinburgh. The fatal cases of diphtheria, which had been 9, 5, and 3 in the preceding three weeks, rose again to 7 last week, of which 4 occurred in Glasgow. The 6 deaths referred to different forms of "fever" corresponded with the number in the preceding week, and included 3 in Edinburgh and 2 in Glasgow. Of the 3 fatal cases of small-pox, 2 were recorded in Edinburgh and 1 in Glasgow. The deaths referred to diseases of the

respiratory organs in these towns, which had been 186 and 168 in the two preceding weeks, rose again to 214 last week, and exceeded by 93 the number in the corresponding period of last year. The causes of 43, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·0 and 31·9 per 1000 in the two preceding weeks, was again 31·9 during the week ending Feb. 9th. During the past six weeks of the current quarter the death-rate in the city has averaged 32·5 per 1000, against 19·1 in London and 23·2 in Edinburgh. The 214 deaths registered in Dublin during the week under notice corresponded with the number in the previous week, and included 19 which were referred to the principal zymotic diseases, against numbers declining from 23 to 16 in the three preceding weeks; of these, 7 resulted from small-pox, 5 from whooping-cough, 4 from "fever," 2 from diarrhœa, 1 from scarlet fever, and not one either from measles or diphtheria. These 19 deaths were equal to an annual rate of 2·8 per 1000, the zymotic death-rate during the same period being 1·5 in London and 2·5 in Edinburgh. The fatal cases of small-pox, which had declined from 11 to 5 in the four preceding three weeks, rose again to 7 last week. The 5 deaths from whooping-cough showed a further increase upon the numbers recorded in recent weeks. The deaths referred to different forms of "fever," which had been 5 and 4 in the two preceding weeks, were again 4 last week. The 214 deaths in Dublin last week included 35 of infants under one year of age and 66 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed an increase upon those recorded in the preceding week. Eight inquest cases and 4 deaths from violence were registered; and 75, or one third, of the deaths occurred in public institutions. The causes of 21, or nearly 10 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1895.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 7·0 per 1000 of the population, estimated at 4,392,346 persons in the middle of this year. In the three preceding months the rates had been 10·0, 9·5, and 8·4 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Paddington, St. Giles, Strand, St. Olave Southwark, Lewisham, and Woolwich; while they showed the largest excess in Marylebone, St. Pancras, Limehouse, Mile End Old Town, Poplar, Rotherhithe, Battersea, and Plumstead. The prevalence of small-pox in London showed an increase during January, 53 cases being notified during the month, including 39 in Marylebone, 5 in Battersea, and 3 in Greenwich sanitary areas. The Metropolitan Asylum Hospitals contained 51 small-pox patients at the end of January, against numbers declining from 93 to 16 at the end of the four preceding months; the weekly admissions averaged 10, against 9, 6, and 3 in the three preceding months. The prevalence of scarlet fever in London showed a slight further decline from that recorded in recent months; this disease was proportionally most prevalent in St. James Westminster, Bethnal Green, Limehouse, Mile End Old Town, Poplar, Rotherhithe, Battersea, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 1633 scarlet fever patients at the end of January, against 2207, 2114, and 1865 at the end of the three preceding months; the weekly admissions averaged 148, against 246, 208, and 171 in the three preceding months. The prevalence of diphtheria in London showed a marked further decline during January; among the various sanitary areas this disease showed the highest proportional prevalence in St. Luke, Whitechapel, St. George-in-the-East, Mile End Old Town, Poplar, St. Saviour Southwark, Rotherhithe, and Battersea. There were 515 cases of diphtheria under treatment in the Metropolitan Asylum hospitals at the end of January, against 537, 517, and 521 at the end of the three preceding months; the weekly admissions averaged 71, against 100, 90, and 93 in the three preceding months. The prevalence of enteric fever in London also showed a marked decline during the month under notice; among the various sanitary areas this disease showed the highest proportional prevalence in St. Martin-in-the-Fields, Strand, St. George Southwark, Rotherhithe, and Lee sanitary areas. Erysipelas was proportionally most prevalent in Marylebone, St. Pancras, Bethnal Green, Whitechapel, Mile End Old Town, and Poplar sanitary areas. The prevalence of puerperal fever showed a marked increase during January, and considerably exceeded that recorded in any recent month; the 41 cases notified during the five weeks ending Feb. 2nd included 9 in St. Pancras, 6 in Camberwell, 4 in Lambeth, 4 in Hackney, 3 in Islington, and 3 in Chelsea sanitary areas.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various sanitary areas, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the five weeks ending Saturday, Feb. 2nd, the deaths of 7691 persons belonging to London were registered, equal to an annual rate of 18·3 per 1000, against 15·8, 15·2, and 17·7 in the three preceding months. The lowest death-rates during January in the various sanitary areas were 6·2 in Lee, 10·8 in Hampstead, 11·5 in Stoke Newington, 14·4 in St. George Hanover-square, 14·7 in Wandsworth, and 15·1 in Westminster and in Lewisham; the highest rates were 24·7 in St. Saviour Southwark, 25·5 in St. Giles, 25·6 in Holborn, 26·1 in St. George-in-the-East, 26·6 in Limehouse, 27·6 in St. Luke, and 29·6 in Strand. During the five weeks of January 656 deaths were referred to the principal zymotic diseases in London; of these, 3 resulted from small-pox, 133 from measles, 53 from scarlet fever, 187 from diphtheria, 136 from whooping-cough, 76 from enteric fever, 1 from an ill-defined form of "fever," and 67 from diarrhœa. These 656 deaths were equal to an annual rate of 1·6 per 1000, against 1·6 and 1·8 in the two preceding months. No fatal case of any of these diseases was recorded last month in St. James Westminster; in the other sanitary areas they caused the lowest death-rates in St. James Westminster, Marylebone, Hampstead, St. Saviour Southwark, and Bermondsey; and the highest rates in Chelsea, Strand, Holborn, St. George-in-the-East, Limehouse, Poplar, Lee, and Plumstead. Only 3 fatal cases of small-pox were registered in London during the month under notice, the corrected average in the corresponding periods of the ten preceding years being 22; these 3 cases belonged to Marylebone sanitary area. The 133 deaths referred to measles were little more than half the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Paddington, Holborn, Bethnal-green, Poplar, Greenwich, and Plumstead. The 53 fatal cases of scarlet fever were only half the corrected average number; this disease was proportionately most fatal in Poplar sanitary area. The 187 deaths from diphtheria exceeded by 35 the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Fulham, Bethnal Green, St. George-in-the-East, Mile End Old Town, Poplar, Newington, and Plumstead. The 136 fatal cases of whooping-cough were less than a third of the corrected average number; among the various sanitary areas this disease was proportionately most fatal in Clerkenwell, Shoreditch, St. George-in-the-East, Limehouse, Battersea, and Lee. The 76 deaths referred to enteric fever slightly exceeded the corrected average number; this disease showed the highest proportional fatality in Strand and City of London sanitary areas. The 67 fatal cases of diarrhœa were within 3 of the corrected average number. In conclusion, it may be stated that the mortality in London during the month under notice from these principal zymotic diseases was nearly 40 per cent. below the average.

Infant mortality in London during January, measured by the proportion of deaths under one year of age to registered births, was equal to 123 per 1000, and was considerably below the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in Hampstead, Stoke Newington, Strand, St. Olave Southwark, Lewisham, and Plumstead; and the highest rates in St. Martin-in-the Fields, City of London, St. George-in-the-East, St. Saviour Southwark, Woolwich, and Lee.

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—JANUARY, 1895.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1895.	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,392,346**	**53**	**1119**	**849**	**2**	**427**	**12**	**41**	**453**	—	**2956**	**7·0**	**3**	**133**	**53**	**187**	**136**	—	**76**	**1**	**67**	**656**	**1·6**	**7691**	**18·3**	**123**
West Districts.																										
Paddington	122,756	—	15	10	—	9	—	—	8	—	42	3·6	—	9	1	2	1	—	1	—	1	15	1·3	212	18·0	163
Kensington	167,671	—	22	20	—	23	—	2	15	—	82	5·1	—	—	1	6	1	—	3	—	2	13	0·8	247	15·4	119
Hammersmith	108,429	—	21	22	—	8	—	—	9	—	60	5·8	—	—	1	6	3	—	2	—	2	14	1·3	178	17·1	119
Fulham	117,745	—	37	29	—	4	1	—	8	—	79	7·0	—	3	3	9	3	—	2	—	3	23	2·0	198	17·5	135
Chelsea	99,930	—	18	18	—	11	—	3	8	—	58	6·1	—	3	2	6	6	—	2	—	4	23	2·4	186	19·4	97
St. George Hanover-square	74,037	—	14	7	—	5	1	—	5	—	32	4·5	—	1	—	1	2	—	1	—	2	7	1·0	102	14·4	139
Westminster	54,003	—	13	12	—	7	—	1	2	—	35	6·8	—	—	—	2	2	—	—	—	—	4	0·8	78	15·1	103
St. James Westminster	23,149	—	11	2	—	1	—	—	1	—	15	6·8	—	—	—	—	—	—	—	—	—	—	—	48	21·6	172
North Districts.																										
Marylebone	137,392	39	27	23	—	17	—	1	21	—	128	9·7	3	—	—	1	—	—	4	—	—	8	0·6	249	18·9	101
Hampstead	77,592	—	20	8	—	12	—	1	6	—	47	6·3	—	1	—	1	—	—	1	—	—	3	0·4	80	10·8	84
St. Pancras	233,543	1	76	57	—	19	—	9	44	—	206	9·2	—	1	6	7	10	—	5	—	1	30	1·3	412	18·4	119
Islington	335,929	—	96	66	—	25	—	3	32	—	222	6·9	—	1	6	17	10	—	5	1	7	47	1·5	505	15·7	118
Stoke Newington	35,234	—	12	8	—	5	—	—	3	—	28	8·3	—	1	—	1	—	—	1	—	—	3	0·9	39	11·5	84
Hackney	215,623	—	38	40	—	24	1	4	17	—	124	6·0	—	3	1	9	2	—	4	—	4	23	1·1	319	15·4	95
Central Districts.																										
St. Giles	37,654	—	4	4	—	5	—	—	—	—	13	3·6	—	—	1	—	1	—	—	—	1	3	0·8	92	25·5	113
St. Martin-in-the-Fields	13,536	—	2	1	—	3	—	—	—	—	6	4·6	—	—	—	1	1	—	—	—	—	2	1·5	26	20·0	182
Strand	22,586	—	—	4	—	5	—	—	—	—	9	4·2	—	—	—	3	—	—	2	—	—	5	2·3	64	29·6	60
Holborn	32,188	1	6	2	—	1	—	—	5	—	15	4·9	—	4	1	—	1	—	—	—	1	7	2·3	79	25·6	149
Clerkenwell	65,036	—	14	6	—	4	—	—	9	—	33	5·3	—	—	1	3	7	—	1	—	—	12	1·9	128	20·5	122
St. Luke	40,763	—	9	12	—	4	—	1	5	—	31	7·9	—	1	1	1	4	—	—	—	—	7	1·8	108	27·6	114
City of London	33,824	—	3	3	—	6	—	—	3	—	15	4·6	—	—	1	—	—	—	3	—	—	4	1·2	71	21·9	151
East Districts.																										
Shoreditch	122,932	—	20	21	—	9	—	—	15	—	65	5·5	—	3	1	3	13	—	3	—	1	24	2·0	237	20·1	126
Bethnal Green	130,661	—	43	30	—	8	—	—	24	—	105	8·4	—	14	2	8	1	—	1	—	—	26	2·1	235	18·8	109
Whitechapel	75,820	—	21	19	—	2	—	—	11	—	53	7·3	—	3	—	2	1	—	2	—	—	8	1·1	162	22·3	122
St. George-in-the-East	45,227	—	12	15	—	—	1	—	4	—	32	7·4	—	2	2	3	4	—	—	—	2	13	3·0	113	26·1	217
Limehouse	56,895	—	29	14	—	4	—	—	2	—	49	9·0	—	2	1	4	5	—	1	—	2	15	2·8	145	26·6	138
Mile End Old Town	108,443	—	52	29	—	6	—	1	20	—	108	10·4	—	1	3	11	3	—	—	—	2	21	2·0	210	20·2	123
Poplar	171,230	1	80	52	—	6	3	1	25	—	168	10·2	—	26	6	16	4	—	3	—	3	58	3·5	352	21·4	145
South Districts.																										
St. Saviour Southwark	26,570	—	5	7	—	—	—	—	—	—	12	4·7	—	—	—	1	—	—	—	—	—	1	0·4	63	24·7	242
St. George Southwark	60,168	—	10	9	—	10	—	—	5	—	34	5·9	—	—	—	2	4	—	1	—	—	7	1·2	141	24·4	133
Newington	119,358	—	36	25	—	14	—	1	12	—	88	7·7	—	1	—	10	3	—	2	—	3	19	1·7	238	20·8	130
St. Olave Southwark	13,065	—	2	1	—	1	—	—	1	—	5	4·0	—	—	—	—	—	—	1	—	—	1	0·8	27	21·6	93
Bermondsey	83,861	—	19	11	1	10	—	—	2	—	43	5·3	—	2	2	—	—	—	1	—	—	5	0·6	177	22·0	112
Rotherhithe	40,713	1	25	14	1	10	—	—	6	—	57	14·6	—	—	—	2	—	—	2	—	1	5	1·3	67	17·2	135
Lambeth	284,883	—	43	53	—	38	4	4	30	—	172	6·3	—	2	3	9	6	—	4	—	4	28	1·0	474	17·4	104
Battersea	165,130	5	53	42	—	27	1	—	21	—	149	9·4	—	2	1	8	12	—	3	—	2	28	1·8	291	18·4	141
Wandsworth	185,956	—	49	17	—	26	—	1	23	—	116	6·5	—	3	—	4	5	—	6	—	6	24	1·3	262	14·7	107
Camberwell	252,737	1	38	53	—	30	—	6	23	—	151	6·2	—	4	2	14	6	—	5	—	8	39	1·6	418	17·3	139
Greenwich	175,183	3	60	42	—	10	—	2	16	—	133	7·9	—	14	—	9	5	—	2	—	2	32	1·9	326	19·4	125
Lewisham (excluding Penge)	82,410	—	10	11	—	6	—	—	5	—	32	4·0	—	3	1	1	3	—	2	—	—	10	1·3	119	15·1	79
Woolwich	42,768	—	4	10	—	—	—	—	2	—	16	3·9	—	2	1	2	1	—	—	—	2	8	2·0	78	19·0	168
Lee	38,832	—	6	4	—	7	—	—	4	—	21	5·6	—	5	—	—	4	—	—	—	—	9	2·4	23	6·2	321
Plumstead	61,494	—	44	15	—	5	—	—	1	—	65	11·0	—	16	2	4	—	—	—	—	—	22	3·7	112	19·0	83
Port of London	—	1	—	1	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 41 cases of membranous croup.

† Including deaths from membranous croup.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-MAJOR F. J. JENCKEN, M.B., A.M.S., arrived at Netley for duty on the 1st inst., and is taken on the strength accordingly. Surgeon-Captain R. H. Moore, M.D., who reported his arrival at Netley on the 8th inst., has been granted leave from the 12th inst. to the 12th prox.

ARMY MEDICAL STAFF.

Surgeon-Captain James H. Daly is placed on temporary half-pay on account of ill-health. The under-mentioned Surgeon-Lieutenants to be Surgeon-Captains:—Edgar M. Pilcher, M.B.; Henry P. Johnson; William G. Beyts; Harold A. Stalkartt, M.B.; Henry N. Dunn, M.B.; Samuel H. Withers, M.B.; Elward M. Morphew; Ernest C. Anderson; Nicholas Tyacke; Robert H. E. Holt; Lionel A. Mitchell, M.B.; Charles C. Fleming, M.B.; John Hennessy, M.B.; Claude B. Martin, M.B.; George J. Buchanan, M.B.; Charles B. Lawson, M.B.; George E. Hughes; Joseph F. M. Kelly, M.B.; Gilbert S. Crawford; and John D. Alexander, M.B.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Colonel D. O'Connell Raye (Bengal), Officiating Inspector-General of Civil Hospitals, Punjab, are replaced at the disposal of the Military Department. The following officers are transferred:—Surgeon-Lieutenant-Colonel J. McConaghy, Civil Surgeon, from Allahabad to Lucknow; Surgeon-Lieutenant-Colonel A. J. Willcocks, Civil Surgeon, to the Agra district; Surgeon-Major C. P. Lukis, Civil Surgeon, from Agra to Shahjahanpur; Surgeon-Captain J. Morwood, Civil Surgeon, from Shahjahanpur to Basti; and Surgeon-Major F. C. Chatterjee, from Basti to Pilibhit; Brigade-Surgeon-Lieutenant-Colonel W. R. Hooper, Civil Surgeon, Lucknow, has retired from the service.

NAVAL MEDICAL SERVICES.

Staff-Surgeon H. S. R. Sparrow is appointed to the Plymouth Division of Marines.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant W. Vernon to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 2nd Cinque Ports (Eastern Division Royal Artillery): Surgeon-Captain F. Shaw resigns his commission. 4th Lancashire: John Cecil Mackmurdo Given, M.D., to be Surgeon-Lieutenant. 5th Lancashire: Douglas John Mayhew Bone, M.B., to be Surgeon-Lieutenant. *Engineers:* 1st Flintshire (Buckley): George Osborne Morgan Lunt, M.B., to be Surgeon-Lieutenant. *Volunteer Infantry Brigade:* Northern Counties Brigade: Surgeon-Lieutenant-Colonel F. B. Mallett, M.D., 2nd Volunteer Battalion the Loyal North Lancashire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel.

"ENTERIC FEVER AT ALDERSHOT."

A correspondent, in a contribution under the above heading to the *Standard* of the 12th inst., calls attention to the various rumours that have been current of late respecting the unhealthiness of Aldershot Camp and the alleged unsatisfactory condition of some of the occupied barracks and quarters and the drainage of the camp, with a view to a question being put to the Secretary of State for War in the House of Commons, so as to elicit information as to the actual state of affairs there. We have from time to time referred to the subject in connexion with the bad and insanitary condition of the sewage farm and other matters, and we alluded last week to the alleged contamination of some of the water supplied to the troops. As regards the latter the correspondent of the *Standard* states that a sample of water taken from the tank supplying the officers' mess of the Tournay Barracks in the Marlborough Lines has been found to be contaminated with animal and vegetable products, and that H.R.H. the Duke of Connaught is reported to have recently forwarded a sample of this water by special messenger to Netley for examination. That the sewage farm for the camp is regarded as a bad one and quite inadequate for the purpose is undoubted, for the Treasury would not otherwise have made a grant of money for providing another in connexion with the Aldershot civil authorities, as has been recently announced; but irrespectively of this there have been so many allegations in different public journals with regard to the barracks themselves, the state of the drainage, and the prevalence of disease in the camp attributable to preventable causes that it is surely time for the War Minister to enlighten the public as to the truth or otherwise of these rumours.

ABDOMINAL SURGERY ON THE BATTLEFIELD.

We may call the attention of members of the military and naval medical services to the observations of Professor N. Senn, President of the Association of Military Surgeons of the United States and Surgeon-General of the National Guards of Illinois, in regard to this subject, reprinted as a pamphlet from the *St. Louis Clinique* for June, 1894. Professor Senn is firmly convinced that abdominal surgery has a great future before it in military practice, and considers it to be the duty of the military authorities to make ample provision for initiating some well-matured plan of procedure calculated to save life occasionally on the battlefield in cases heretofore beyond the reach of surgery. We are afraid that the conditions of war, the provision of transport, stores, and surgical material, with a *personnel* specially trained to the work, will render abdominal operative surgery extremely difficult of successful accomplishment under such circumstances. Be this as it may, the remarks which Professor Senn makes on penetrating gunshot wounds of the abdomen in regard to the arrest of hæmorrhage and direct treatment of visceral wounds, preparation for laparotomy and operation in the field, together with the practical suggestions he has to offer in order to give effect to his proposals, are very suggestive and well worth reading. The pamphlet is well illustrated.

DISTINGUISHED SERVICE REWARD.

We congratulate Sir Anthony D. Home, V.C., K.C.B., upon having a reward for distinguished service conferred upon him. There can be no doubt about the long and distinguished field services of this officer whilst on the active list of the Army Medical Department, for he took part in the Crimean campaign of 1854–5, in the Indian Mutiny, including the siege and relief of Lucknow, in the China War, the New Zealand War of 1863–65, and in the Ashanti War. It is not easy to beat such a war record as this. Sir Anthony Home, in addition to having earned a V.C. for an exhibition of great personal gallantry during the Indian Mutiny, occupied several very important posts whilst serving in the Medical Department, and was at one time Surgeon-General of Her Majesty's Forces and Principal Medical Officer of India. He also temporarily served on the Medical Department of the Privy Council, and has the reputation of being a man of culture and ability, with an exceptional talent for organisation.

MEDICAL SERVICES IN WAR.

Medical officers of the army may be glad to have their attention directed to a very useful little publication entitled "Notes on Medical Services in War," by Brigade-Surgeon-Lieutenant-Colonel W. H. McNamara (Messrs. Gale and Polden's military series). It sets forth shortly and intelligibly much information which it is necessary for medical officers to know about the requirements of modern war and the peace training necessary to meet them. They cannot readily find this out for themselves, it being nowhere laid down in a succinct and easily accessible form. The author of these "Notes" seems to us to have provided an excellent guide—especially for junior medical officers—at the trifling cost, it may be added, of one shilling.

BACTERIA AND CHIMNEY SMOKE.

Amid the vagaries of the scientific imagination in regard to the methods of diffusion of bacteria and micro-organisms of disease generally the most ingenious and droll seems to be that entertained by the municipal authorities of Bombay who, according to the *Pioneer Mail*, have applied for the services of Mr. E. H. Hankin, the chemical examiner, Government analyst, and bacteriologist for the North-West Provinces and Oudh, to institute an inquiry into the possible influence of chimney smoke in the dissemination of bacteria!

THE POST OF PRINCIPAL MEDICAL OFFICER OF INDIA.

It is currently reported, but it has never been officially announced, so far as we know, that Surgeon-Colonel Gore is to succeed to the appointment of Surgeon-General of Her Majesty's Forces and Principal Medical Officer of India on that post being vacated by the retirement of Surgeon-Major-General Bradshaw, C.B.

Surgeon-Major-General J. Warren, Principal Medical Officer, Bombay Army, will shortly proceed to make his annual inspection of the barracks and hospitals at Aden.

Correspondence.

"Audi alteram partem."

SCHOOL BOARDS AND MEDICAL CERTIFICATES.

To the Editors of THE LANCET.

SIRS,—The question of signing School Board certificates is arriving at a stage in which some concerted action one way or the other appears desirable on the part of the profession; and as the subject is coming up for discussion at our next Hospital Committee I and my colleagues ask for your advice in order that we may adopt a course which shall commend itself to our professional brethren. The School Board for this district in the case of non-attendance at school issue certificates to the parents of the absentee (requiring them to be returned duly filled up and signed by a medical man) of which the following is a copy:—

SCHOOL BOARD FOR WEST HAM.
FORM OF MEDICAL CERTIFICATE.

Date 189

.... is suffering from .... and is not* now fit to attend school, but will probably be able to return in .....weeks. The child has been under my care since the 189

(Signed) ....

* If the child is now fit to attend school have the kindness to strike out the word "not" and the words following "school."

NOTE.—The Board will not be liable for any expense attending the filling up of this certificate.

Doubtless many of these certificates have been filled in and signed gratuitously by medical men as the simplest way of ridding their patients of the irksome visits of the School Board attendance officer, but in the out-patients' room of our hospital we have always declined to sign them, feeling sure that the hospital card which is kept by the patient should be sufficient evidence of illness. Lately, however, a member of the Hospital Committee wrote to the secretary "asking to be informed by whose authority the medical staff refused to sign the above certificate." The matter has been referred to the Staff Committee for report. It has always been our boast that the disease from which our patient is suffering is a private matter between our patient and ourselves. This rule has been broken through by the legislature in the case of the Infectious Diseases (Notification) Act, 1889 in the interests of public health, where the principle is recognised that the medical profession are entitled to a fee from the local sanitary authority for the information supplied. The educational Acts merely cite illness as a legitimate reason for non-attendance at school. Does this imply that the School Board are entitled to know the particular disease which causes the disability? If it does not, then surely the medical man, in filling in the disease, is committing a breach of professional etiquette. If it does, then the local authority for educational purposes is requiring information in the interest of public education, and should be prepared to pay for it in the same way as the local authority for public health purposes; but quite apart from information our board goes a step further and desires a distinct professional opinion, a professional opinion requiring the greatest development of medical skill—namely, the probable duration of the disease—at the same time intimating to all and sundry its desire to have this professional advice without paying for it. Granting for one moment that the information is desirable, the system of entry of our out-patient department would enable any case of illness to be easily traced throughout the whole course of its attendance, and the information required by the certificate could be supplied to any officer of the School Board appointed to attend the hospital with that object. The cases of bogus illness which the certificates are apparently intended to check must be comparatively few, while the certificates themselves are freely distributed to scholars who do not attend, from which it would appear that the time and skill of the medical profession are to be used in order to save trouble to the school attendance officer, and in order that the School Attendance Committee of the West Ham School Board may render itself efficient by means of the labour of other people. We all here recognise the ability with which the School Board studies the interests of education in this district, and no class is more interested in and desirous of the spread of education than that of medical men, but surely on principle it is time for us to pause when an important executive department of the country asks us to give it gratuitous advice, and it is proposed that a hospital committee shall recognise the appreciation of the suggestion that it is our duty so to do.

I am, Sirs, yours faithfully,

CHARLES SANDERS.

Romford-road, Stratford, E., Feb. 5th, 1895.

*** We see no reason that the School Board should be informed of the exact medical diagnosis. The fact that under certain circumstances this diagnosis is communicated to the local sanitary authority is sufficient for the safeguarding of public health. We entirely agree with our correspondent that medical services should not be expected by individual or corporation to be given gratuitously, and hope that the hospital committee in question will see the propriety of supporting their medical staff in so reasonable a contention.—ED. L.

"THE ABSENCE OF SUGAR FROM NORMAL URINE PROVED BY A NEW AND SIMPLE METHOD."

To the Editors of THE LANCET.

SIRS,—I hold it to be the duty of anyone engaged in a scientific discussion to publicly admit any error of statement which he may have made so soon as his attention has been directed to it. On reading Dr. Pavy's letter and referring again to his book I find that, although his position might have been more clearly stated, I was wrong in supposing that he applied the fermentation test directly to normal urine and not to a product extracted from the urine by a series of chemical processes. I now admit my mistake and express my regret for having made it. Dr. Pavy's comment on my quotation of Sir William Roberts as to the limitation of the fermentation test is unfair and misleading. I have already admitted my error in supposing that Dr. Pavy applied the test to the entire urine and not to an extract therefrom; but while believing the former to have been the method employed it was quite pertinent to indicate that the largest amount of sugar supposed to be present in normal urine could not be shown by the fermentation test. With this simple explanation I leave to the impartial judgment of others whether it is not Dr. Pavy who "has considered himself at liberty to neglect to give consideration to the misleading effects of putting an incomplete representation before your readers."

Again, in suggesting that Dr. Pavy by neutralising his acid fluid by carborate of soda before he applied the fermentation test was introducing a possible source of error, he facetiously says that I am "indulging in some kind of jest, and that the suggestion borders too much on the absurd to be otherwise than a jest." Dr. Halliburton, however, appears to have thought the suggestion sufficiently reasonable to induce him to perform some experiments, the results of which he recorded in THE LANCET of last week. He found that the acidity of urine to which 1 per cent. of sugar had been added did not prevent fermentation, and that normal acid urine and the same urine neutralised by ammonia did not ferment with yeast, but normal urine neutralised by sodium carbonate with the addition of yeast gave off an abundance of carbonic acid gas. Another tube contained a weak solution of sodium carbonate and yeast, but no urine. Here also gas was given off. One result of my "jest" and of Professor Halliburton's experiments will be that in future Dr. Pavy will not neutralise an acid fluid with sodium carbonate before applying the fermentation test. Since, however, he states that the production of alcohol was ascertained this appears conclusive. It is to be regretted that a scientific discussion cannot be conducted without an unseemly display of personal feeling, and even the suggestion of an "offence to literary probity," to which I do not feel called upon to reply. What would be thought of the doubtful taste displayed if, in referring to Dr. Pavy's persistently ignoring the reducing action of kreatinine, I were to speak of it as "too much bordering on the absurd to be anything but a jest"?

The present position of the question as to the presence of a trace of sugar in normal urine may be briefly stated. Some eminent chemists and physiologists obtain from the urine a substance which has all the characters of glucose; but the

question arises, Does this substance pre-exist in the urine or is it an artificial product of the processes employed for its extraction? This question has not been answered, and it is one which it will be extremely difficult to answer satisfactorily; but surely Dr. Pavy should be the last to deny the possibility that a carbohydrate may be split off from some constituent of normal urine, since throughout his work on "The Physiology of the Carbohydrates" he repeatedly asserts that all the tissues and organs of the animal system are "glucosides," from which by a "cleavage-process" sugar may be separated. Thus by boiling with acids or alkalies he separates sugar from muscle, from beef-tea, from the white and yolk of egg, and from various other proteids. It is remarkable that in Dr. Pavy's book there is no mention of two almost ubiquitous cupric oxide reducing substances, kreatine and kreatinine. It is certain that a portion at least of the reducing action of such a tissue as muscle or such a liquid as blood must be due to one or both of these bodies, yet there is no indication that Dr. Pavy, being aware of this source of error, has been careful to guard against it. The fact that his estimate of the amount of sugar in normal urine is about five times greater than that of the German observers Baisch and Seegen is unquestionably explained by his ignoring kreatinine and attributing to glucose the entire reducing action on cupric oxide which occurs after the removal of uric acid.

The question of the presence of a trace of sugar in normal urine is one of little or no practical importance; but I have the satisfaction of knowing that by the picric acid test, employed as I have described in my last paper,[1] I can with the greatest ease and certainty detect the smallest trace of sugar which has any clinical significance. Let me remind your readers that there are two classes of facts which appear to be inconsistent with the presence of sugar in normal urine: (1) the fact discovered by my son that, after the separation of uric acid and kreatinine by the mercuric chloride process, which does not remove sugar, the filtrate is found to contain no trace of a reducing agent; (2) the experiments described in my paper prove that the entire picric acid reduction[2] of normal urine is accounted for by the kreatinine contained therein. In no specimen of normal urine have I found a trace of sugar, but I have a dyspeptic friend and patient now seventy-one years old whose urine during the last ten years has occasionally contained sugar varying in amount from one to three grains and a half per ounce. With strict attention to diet he is now apparently in good health, but, thinking it probable that the urine might still contain a trace of sugar, I lately asked him to send me a sample. The specific gravity was 1023. Boiled with picric acid and potash, the reduction colour indicated one grain per ounce, calculated as glucose. The reducing power of kreatinine being less than that of glucose in the proportion of 10 to 12, a solution of kreatinine in the proportion of 1·2 grain per ounce gave the same depth of colour as the urine. When the two liquids, the urine and the solution of kreatinine, were tested after their dilution had been carried beyond the point (one grain in 10,000 minims)[3] at which glucose ceases to exert any reducing effect upon picric acid, the urine was visibly paler than the kreatinine solution; and in order to equalise the colour of the two liquids one-fifth of its volume of water was added to the solution of kreatinine in a small graduated tube of the same diameter as that which contained the urine. This analysis shows that 0·8 of the picric acid reduction was due to kreatinine, this being the average amount in normal urine, and 0·2 to glucose. This amount of glucose, one-fifth of a grain per fluid ounce, thus easily determined, is slightly less than Dr. Pavy declares to be present in normal urine. This simple but accurate method of analysis has been rendered possible only by my son's success in separating and obtaining in a pure state the unchanged urinary kreatinine. This work of his, which has hitherto been strangely neglected, will, I venture to say, be soon acknowledged to be the most important contribution to urinary analysis that has been made within the last ten years.

In the numerous communications on the subject of urinary tests which during the last twelve years the Editors of THE LANCET have done me the favour to publish I have had in view two main objects. First, to prove that in picric acid we have an invaluable quantitative as well as qualitative test for both albumen and sugar. In the pursuance of this object I have from the first had to meet the strenuous opposition of Dr. Pavy with some other opponents of less note.[4] My second object has been to impress upon the profession the duty of testing the urine of every patient and of every applicant for life insurance.

A few weeks before the death of Sir William Gull, during an interesting half hour's chat with my old friend, though an occasional opponent, he said to me, "You know the true interpretation of γνῶθι σεαυτὸν is *test your urine*." If every member of the profession would systematically act upon this maxim the result would be that fewer cases of insidious latent disease would remain undiscovered until they have passed into an incurable stage.

I am, Sirs, yours faithfully,

Savile-row, Feb. 12th, 1895. GEORGE JOHNSON.

To the Editors of THE LANCET.

SIRS,—A transposition of some words in the last paragraph of my letter inserted in your last issue has occurred, whereby a portion of it has been rendered unintelligible. May I ask you, therefore, to make the correction? It refers to von Baisch's statement and should run as follows: "The existence of sugar in normal urine is susceptible of demonstration by the polarimeter, by Fehling's solution, by the production of glucosazone, evidenced by crystalline form, melting point, and composition, with phenyl-hydrazine, and by fermentation with yeast with the formation of alcohol." Dr. Halliburton has now entered the discussion, and I seek permission to comment upon what he has said. Carrying on the figurative allusion introduced into last week's correspondence he may be spoken of as having undertaken the *rôle* of *advocatus Dei*. Let us see whether in this *rôle* he displays that soundness and clearness of judgment and impartiality upon which he has justly attained so high a reputation in his physiological writings.

Dr. Halliburton begins by misquoting me. This from him I am much surprised at. He says: "I find, however, on referring to p. 181 of his book that the material he operated on was strongly acid and did not ferment with yeast till rendered alkaline with sodium carbonate." I do not state "rendered alkaline." What I do state is "neutralised," and this makes all the difference in relation to the subsequent remarks of Dr. Halliburton on the suggested effects of the presence of sodium carbonate. Turning to my original writing,[1] which is referred to in my book as the basis of my text, brought to a neutral state is the form of expression used. I am constrained here to reproduce what follows about the testing of the neutralised product, as, although written nineteen years ago, it falls appositely into the present discussion and forcibly speaks to the point. "With the product in my possession, procured from healthy urine, I can now show a good reaction with all the tests I have referred to. At the meeting of the Royal Medical and Chirurgical Society of Nov. 23rd, 1875 I exhibited a specimen of the product and applied the various tests before the Fellows present. Moore's test gave a dark brown colouration; the bismuth (Böttger's) test became black; the copper solution gave a copious precipitate of orange yellow reduced oxide; and the fermentation test acted briskly. The process of fermentation was allowed to proceed during the course of the meeting, and at the end of the evening the evolved gas was shown to consist of carbonic acid by the absorbing action of potash, and farther the fermented liquid was submitted to distillation and the distilled product allowed to fall into a solution of chromic acid in sulphuric acid, when the change to green, indicative of the presence of alcohol, was obtained."

I referred in my last letter to Sir George Johnson's suggestion about evolved carbonic acid from sodium carbonate by the action of an acid being open to being mistaken for that evolved by fermentation. In the hands of a competent person, and with proper evidence of fermentation afforded, it is utterly impossible for the mistake to be made. The evolution of gas from fermentation does not begin to any significant extent until a supposed evolution from sodium carbonate would have been long over. It then goes on increasing in briskness, so that after, say, half or three-quarters of an hour at a temperature of 90° to 100° F. an

[1] THE LANCET, Jan. 12th, 1895.

[2] Uric acid which reduces cupric oxide has no reducing action on picric acid.

[3] See my paper before referred to.

[4] See THE LANCET from November, 1882, to December, 1883.

[1] "On the Recognition of Sugar in Healthy Urine," Guy's Hospital Reports for 1876, p. 421.

Infinitely greater amount of activity is observable than previously.

Dr. Halliburton has advanced upon the position taken by Sir George Johnson, and from simply one set of experiments makes bold to suggest, in opposition to all previous knowledge, that yeast has the power of splitting asunder the acid and base of sodium carbonate and leading to the evolution of the former in the form of gas. As an alternative explanation he suggests that the yeast itself may have contained some sugar which was decomposed by the cells in a medium containing sodium carbonate, but he declares himself for the present to be rather inclined to adopt the former hypothesis. I have repeated Dr. Halliburton's experiments without obtaining the slightest corroboration of his proposition that sodium carbonate is responsible for the evolution of gas in the presence of yeast, which is what Dr. Halliburton wants to prove; and I affirm that sodium carbonate is quite the proper thing to use as a neutralising agent under the circumstances. But, as far as my application of the fermentation test to the extracted sugar from healthy urine was concerned, the ground of objection raised by Dr. Halliburton did not exist owing to the fact that virtually there was no sodium carbonate present, the addition of it only having been carried to the point to attain neutralisation. Dr. Halliburton says nothing about having taken the precaution to wash his yeast previous to employment. There is always a certain amount of fermenting impurity present. This doubtless constituted the essential factor connected with his results. Withal, however, there is a want of consistency about them, and to base such a proposition, as Dr. Halliburton has done, upon the few experiments he only claims to have performed is nothing short of an offence to true science. Would Dr. Halliburton have introduced the crude material he has sent to you into his scientific writings? If he reply in the affirmative, all I can say is that with procedure upon such lines it would not, I am of opinion, take long for the good reputation he now possesses to vanish. I ask, then, is Dr. Halliburton to consider himself at liberty to serve up material to you for the medical profession that I venture to think he would not bring forward at any scientific society or introduce into any scientific writing? Notwithstanding the position he has taken, Dr. Halliburton before finishing, admits that he thinks there is enough to convince the impartial observer that a small quantity of glucose is obtainable from normal urine. What more than this is wanted? It is all in reality that I have throughout contended for. Sir George Johnson has based arguments upon the *quantity* he says I have asserted to be present. I have not, however, committed myself to anything absolute upon this point. My statement contains the provisional "if" to meet the doubt that existed in my mind. It runs thus: "If the cupric oxide reduction found to occur [after treatment with the neutral and basic lead acetates] be read off as produced entirely by sugar, the amount of this principle ordinarily existing in healthy urine may be said to stand at about 0·5 or a little over per 1000." 0·5 per 1000 would only give about two-thirds of a gramme, or about ten grains, as the average elimination for an adult subject in the twenty-four hours—a quantity that cannot be looked upon as *per se* having any importance. As long as only Sir George Johnson quoted me imperfectly I did not consider it necessary to take any notice, but Dr. Halliburton at the end of his letter falls into the same imperfect representation. Hence the explanation I have given.

I am, Sirs, yours faithfully,

Grosvenor-street, Feb. 13th, 1895. F. W. PAVY.

To the Editors of THE LANCET.

SIRS,—I am obliged to Sir George Johnson for explaining some of the points respecting which I, doubtless in common with other of your readers, had misunderstood him. I certainly thought that the confusion of grains per 100 minims with the "percentage weight of sugar to the volume of urine" was due to inadvertence; but now that Sir George Johnson maintains that the expressions are practically identical I must point out the distinction. "Percentage weight in volume" will be understood by most people to mean the number of grains weight of a substance contained in 100 fluid grains of a solution, or in the metric system the grammes of substance per 100 cubic centimetres. But Sir George Johnson applies the term to *grains* weight per 100 *minims*—that is, to the number of grains per 91·1 fluid grains. Probably Sir George Johnson will be alone in applying the term "percentage" to this curious relationship. But Sir George Johnson is not even in agreement with himself on the matter, for, while he gives the divisor 4·8 in his recent paper, in the directions issued with his picro saccharometer the correct divisor, 4·375, is directed to be used. Of course I at once accept Sir George Johnson's assurance that he lays stress on the presence of urinary sugar even in the smallest traces, but I feel bound to show how I came to misunderstand his views. In the directions issued with his apparatus it is stated that if the colouration produced is less than the standard the urine is either free from sugar or contains less than one grain per fluid ounce, and that all normal urines reduce picric acid and produce a colouration to a variable extent, ranging from that corresponding to 0·5 up to 1·2 grains of glucose per fluid ounce. It is evident that in presence of an unknown and variable proportion of kreatinine, itself liable to produce a colour corresponding to more than one grain per ounce of glucose, it is quite impossible to estimate small quantities of sugar, or even to detect them. Of course, if the kreatinine be first removed, by Mr. G. Stillingfleet Johnson's or other method, the chief cause of obscuration is removed, but the test thus compulsorily modified does not bear out Sir George Johnson's statement that "for the clinical observer the presence or absence of glycosuria may be decided in about two minutes," "no other method of testing for glycosuria equalling this for the ease and rapidity with which it may be conducted, and for the absolute trustworthiness of the result." I am not traversing the convenience and value of the picric acid test for detecting and roughly estimating sugar in typical cases of glycosuria. As stated in my last letter, while the results are amply sufficient to allow of a judgment as to the progress made by a diabetic patient, they are quite inconclusive as evidence on the vexed question of the presence of traces of sugar in normal urine. As to the liability of picric acid to yield a more or less reddish solution when boiled with liquor potassæ (B.P.), I can only repeat that my experience is at variance with that of Sir George Johnson, and it would be interesting to learn whether the behaviour mentioned by me has been observed by other of your readers.

I am, Sirs, yours faithfully,

Surrey-street, Sheffield, Feb. 11th, 1895. ALFRED H. ALLEN.

"THE GENERAL MEDICAL COUNCIL AND THE OBSTETRICAL SOCIETY."

To the Editors of THE LANCET.

SIRS,—Having given Sir John Williams and Dr. Playfair an opportunity for further explanation, and having noted that neither of them have made use of it, it appears to be an opportune moment to call attention to a few points. Dr. Playfair speaks of the high motives of the Obstetrical Society and the success of the examination. Sir John Williams advances as an argument against the recent action of the General Medical Council that all the obstetric physicians of note are contingently branded with infamy. He further states that none are better able to train and examine midwives or are better informed of the needs of the poor in their travail. Now, however high motives be, men of the highest respectability and position may be mistaken in the means they adopt to attain their end. The regulations for these examinations, for instance, do not compel the candidates ever to have attended a lying-in woman during the puerperium, and the examiners have gone on examining year after year and have not detected the fact that some women (how many is not known) who have passed the ordeal of examination with success have not done so. That the successful candidates themselves are admittedly ignorant of the rudiments can be shown by the fact that a printed circular was recently sent to the successful candidates warning them that they ought not to undertake cases if they were suffering from such troubles as ozæna, suppurating sores, or necrosis of bone. This certainly appears to be a practical acknowledgment of the fact that candidates who are given the diploma which is the cause of the trouble are not to be trusted. To encourage such women to practise amongst the poor may be considered by some to be in the interests of humanity, but because others do not do so there is no obvious reason why their representations should be unheeded. Representations have been made to the effect: 1. That on the Continent, where midwives practise midwifery under strict State control, the

following results are observed—(*a*) the lowest mortality amongst the lying-in is 5·4 per 1000, the highest 12 3 per 1000, that in our own country being about 4 5; (*b*) the system has not resulted in removing the unqualified practitioner from the poor, who practises as she does in this country; (*c*) the midwives do not, as a matter of fact, although required to do so by law, send for the surgeon for the repair of the perineum—in fact, they do not send for medical assistance unless compelled to do so in extremity. 2. That although the Obstetrical Society has over 2000 midwives on its books, these persons are not found to be generally practising amongst the poor unless employed by institutions or charities. 3. That certified midwives have been found guilty of criminal practices.

I will now call attention to the case of the certificated midwife, mentioned in THE LANCET of Feb. 9th, as showing some of the dangers which are likely to be the result of the action of the Obstetrical Society. It appears to me that the obstetricians of note, so far from promoting the interests of humanity, with the best intentions in the world, have done and are doing just the reverse. The Royal College of Physicians of London cannot escape some responsibility in the matter. Just before the meeting of the Select Committee of the House of Commons it issued a report on the subject of midwives' registration. The medical profession, no doubt, knowing the propensity of the College for being at least a quarter of a century behind the times, did not pay much attention to it, but it carried weight before the Select Committee. In this report allusion is made to the fact that in Continental countries midwives practised under State control. The College could not be expected to ascertain the results obtained under such a system; indeed, there was no information available relating to all foreign countries until the return on stillbirths was published, and, as Dr. Farquharson admitted when I was giving evidence before the Select Committee, their committee could not be expected to sit more than two or three times. It could not in view of the composition of the committee and the old-world ways of the College, but it does not follow that a reasonable conclusion could possibly be arrived at by such procedure. If accoucheurs of note will kindly enlighten our darkness on any or all of these points I am sure they will delight an admiring profession, which at present fails entirely to see the reasonableness of their course of action.

I am, Sirs, your obedient servant,

Hatfield, Feb. 10th, 1895. LOVELL DRAGE.

"THE DENTIST'S EDUCATION."

To the Editors of THE LANCET.

SIRS,—The examination of candidates for the L.D.S. of the Royal College of Surgeons of England has long been a grievance with dental teachers. Beyond the introduction of the "practical" portion in 1879 no other improvement of any moment has taken place in the examination since 1872, when written papers were given in addition to the *viva-voce*. All the other licensing corporations—Edinburgh, Glasgow, and Dublin—have their primary and final examinations at two periods of the dental student's career. But in this matter the Royal College of Surgeons of England remained stationary, apparently fixed, notwithstanding the utterances of teachers and others, many times repeated from 1879, urging that the examination in the general subjects of the curriculum—at all events, anatomy and physiology—be taken at a different time from that of certain of the special subjects—dental surgery &c. Not only would such a division of the examination reduce the tendency to "cram," which the existing single examination in all the subjects fosters, but the onus of preparing the candidates in anatomy and physiology would rest upon the teachers of those sciences at the general medical schools and not, as heretofore and at present, upon the tutors of the dental schools—a preposterous anomaly which ought not to exist. Regarding the question of adding another—a third—year to the hospital portion of the dental curriculum referred to by Mr. Newland-Pedley in THE LANCET of Feb. 2nd I shall not discuss it now; but I would emphasise this fact, that the marked superiority of the British over the American dentist's education has hitherto consisted in the better theoretical groundwork and knowledge of the former. Our "cousins" are, however, advancing in this respect and that markedly, and if we are to maintain that higher standard the Royal College of Surgeons of England—the licensing corporation that admits to the profession the majority of the recruits—should not lose any more time in effecting improvements in the nature and scope of its dental examinations.

I am, Sirs, yours faithfully,

THOMAS GADDES.
late Dean of the National Dental College, London, and also of the Dental Department of the University of Denver, U.S.A.

Harrogate, Feb. 6th, 1895.

"THE DEBATE ON THE NATURE AND TREATMENT OF PERITONITIS AT THE OBSTETRICAL SOCIETY."

To the Editors of THE LANCET.

SIRS,—As the author of the paper which has been the occasion of such lively correspondence the last two or three weeks, will you grant me space for a few remarks? Nothing impressed me more at the debate than the antagonism of the views advanced by different speakers even on a mere question of fact; whether, for example, a certain case was or was not a case of peritonitis. The letter of Mr. Emmett in your last week's issue has, to my mind, the right ring about it. The mortality in his obstetric practice, from conditions which he had been wont to regard as due to peritonitis, has diminished since his adoption of the purgative treatment to the vanishing point. My advocacy of the employment of purgatives in peritonitis rests apparently on entirely different grounds from those maintained by Mr. Lawson Tait; but whether one theory or the other, or neither, is correct matters, after all, but little. Truth is not absolute and final, much less can the statement of a truth be. Let the profession put the treatment advocated to a practical test. For the other suggestions in my paper I do earnestly beg the like consideration. Firstly, the regular washing out of the stomach until the bowels can be got to act; secondly, the support of the heart strength and kidney activity by the administration of strychnia and digitalin; and, thirdly, inhalations of oxygen with the object of increasing the oxidising power of the blood.

I am, Sirs, yours obediently,

Queen Anne-street, W., Feb. 11th, 1895. JOHN SHAW.

To the Editors of THE LANCET.

SIRS,—Many, like myself, are grateful to the man who has helped us so much to bring our abdominal operations to a successful termination. It seems to me that it is a very small and cheap notoriety that is to be obtained by attacking a man on what Mr. Richard Emmett well describes as a verbal quibble. Surely Mr. Lawson Tait may be allowed to treat such attacks with contemptuous silence. We all know perfectly well what Mr. Tait means when he says that the removal of distension prevents peritonitis, and if he has at some time expressed this in terms which might lend themselves to a different construction it ill becomes anyone to be continually carping at him. It is not too much to say that many hundreds of lives have been saved by the adoption of Mr. Tait's purgative treatment of distension, and that abdominal surgery owes its position to-day in a great measure to his boldness and teaching.

I am, Sirs, yours faithfully,

Huddersfield, Feb. 13th, 1895. T. KILNER CLARKE.

THE TREATMENT OF DIPHTHERIA.

To the Editors o THE LANCET.

SIRS,—I observe that in the comparisons now being drawn between the results of the antitoxin treatment of diphtheria and those obtained by the old methods the writers have referred to only two remedies as being used in combating the disease—namely, the perchloride of iron and chlorate of potassium with hydrochloric acid. I have seen no mention made of a preparation which in my hands has had a marked effect in arresting the exudation of membrane on the fauces. I allude to the euchlorine solution first employed as a remedy for scarlatina anginosa and eulogised by Sir Thomas Watson in his lectures on the Practice of Physic. For more than twenty years I have used the solution, made according to the formula given in the lectures, in cases of diphtheria, and I may say with a success nearly comparable to that obtained with antitoxin serum in the metropolitan hospitals. In fact,

the only instances of its failures I can remember were complicated with laryngeal and tracheal effusions or were primarily cases of membranous croup. It always appeared to me that this solution, which is a most powerful antiseptic, has both a topical and general effect in neutralising the diphtheritic poison, as it not only hastens the detachment of membrane from the throat, but it appears to lessen the chances of secondary affections, whether in the form of paralysis or renal incompetence. But for these effects to be obtained it is necessary that the solution should be freely and frequently administered, so as to keep the fauces as nearly as possible aseptic. And with the same view I have always used sulphurous acid or solutions of carbolic acid either as a spray or to swab the throat with. My estimate of the value of euchlorine in diphtheria is supported by the testimony of Mr. T. Schollick, who was for several years medical officer of the Isolation Hospital for this union, and who had opportunities of testing its effects during more than one severe epidemic of this disease. It may seem late to propose a remedy for diphtheria in the face of the remarkable results obtained by the use of antitoxin, which possesses the advantage of controlling the laryngeal and tracheal affections, so often a cause of fatality. But circumstances may even yet arise to render a substitute for the serum a not unwelcome addition to our resources.

I am, Sirs, your obedient servant,

Guildford, Feb. 5th, 1895. HENRY TAYLOR.

"ENUCLEATION OF HYDATID CYST OF LIVER."

To the Editors of THE LANCET.

SIRS,—While congratulating Mr. Morgan on the satisfactory result in the case of hydatid cyst of the liver published in THE LANCET of Feb. 9th, I am anxious to draw attention to a method of treating these cases which I believe to be an advance on that followed in Mr. Morgan's case. In a paper published in 1891,[1] and again in January this year, I explained the method of treating all cysts which are not suppurating by incision, evacuation of the contents, and parasitic cyst only, and closure of the abdominal wound without drainage. By simply removing the daughter cysts and the parasitic endocyst, which has no organic connexion with the adventitious cyst, and by not making any attempt to remove or separate from surrounding parts the latter fibrous investment, the danger of hæmorrhage is entirely avoided. No doubt some omental cysts can be removed with the fibrous cyst entire, but this should not be attempted in liver cysts. Although this method seems after four years to be but yet little practised in England, it has been extensively adopted in Australia, and from your Australian Correspondent's account of the Medical Society of Victoria's meeting, reported in THE LANCET of Feb. 9th, it would appear, successfully. No doubt it is not always necessary, except in the case of very large cysts, to invert and suture the adventitia as I originally suggested; neither is it, I think, desirable to anchor the evacuated cyst to the parietal peritoneum, as advocated by some Australian surgeons, unless any accidental contamination should have occurred at the operation.—I am, Sirs, yours faithfully,

King-street, Leicester, Feb. 11th, 1895. C. J. BOND.

AN APPEAL.

To the Editors of THE LANCET.

SIRS,—I desire to make an appeal to the profession on behalf of Mrs. Julia Guthrie, who is a widow of the late Professor Guthrie, at one time President of the Royal College of Surgeons. Mrs. Guthrie was married at St. Ann's, Soho, early in 1856, and was left a widow in that year with one son, who has since died. Mrs. Guthrie was left on the death of her husband unprovided for, but the son was during his lifetime assisted by members of the family. For many years Mrs. Guthrie has been dependent upon her relatives, who have now all died, and she is left alone in the world. A few months ago I was instrumental in obtaining a pension of £18 per annum for Mrs. Guthrie from the British Medical Benevolent Fund, which at the present moment is sufficient to pay for her one room. It is desired to make a provision for her life of the very moderate sum of £1 per week, and as Mrs. Guthrie is nearly seventy five years of age I confidently appeal to the profession to assist in this charity. An account has been arranged at the Capital and Counties Bank (head office, Threadneedle-street, E.C.), and any subscription can be paid to them to the "Guthrie Relief Fund" or to the honorary secretary, Mr. R. Brandreth, LL.D., solicitor, 2, Duke-street, Brighton, of whom any further particulars of Mrs. Guthrie's sad case can be obtained.

I am, Sirs, yours obediently.

ALFRED UPTON, L.R.C.P. Lond., M.R.C.S. Eng.

Lansdowne-place, Hove, Brighton, Feb. 13th, 1895.

"FILARIA LOA."

To the Editors of THE LANCET.

SIRS,—With reference to the filaria loa described in THE LANCET of Oct. 27th, 1894, supposed to be found only in Africa, I would mention the following case. A few weeks ago a horse was brought to me with a filaria moving rapidly about in the ante-chamber of its left eye. The filaria appeared about an inch and a half long, tapering at one end, blunt at the other. I ordered some perchloride of mercury solution to be injected through the cornea to kill it. Unfortunately for the specimen, but fortunately for the horse, when the aqueous escaped through the puncture the filaria also wriggled through, fell on the ground, and was lost, as I was not informed of the result in time to search for it.

I am, Sirs, yours faithfully,

Mission Hospital, Kashmir, Jan. 7th, 1895. ARTHUR NEVE.

THE MEANS OF CULTIVATING ORGANIC REACTIONS IN AIR AND THEIR RELATION TO ZYMOTIC DISEASE.

To the Editors of THE LANCET.

SIRS,—The indefinite nature of recorded research due to the natural difficulties of demonstrating the facts involved in atmospheric pollution by sewage is exemplified in the following statement made at a recent meeting of the London County Council regarding sewer gas in London. The Main Drainage Committee had the subject under consideration, and when they learned from the experts that sewer gas was free from germs they were very much astonished. They had, however, referred it to the experts to say whether sewer gas was not injurious to public health "in some way" other than through the presence of bacilli. The evidence available in proof of pathogenic origin in organic reactions in air as yet is more valuable in its indications than in actual facts. The effects, however, of organic pollution in air were early noticed by me during very protracted experiments in aerifying sewage and other liquors between 1878 and 1886. These effects, regarded as distinct from odour, were always apparent during the treatment of sewage in any stage of putrefactive ferment, and as possessing a distinct bearing on a subject which I believe requires investigation on its own account.

The first actual evidence of pathogenic origin in air is supplied by the result attending the influenza inquiry instituted by the Local Government Board. It is simple history that a subsequent official inquiry by the Board attributed the malady chiefly to the presence of refractory organic impurities in the air. It was now apparent that the march of events by investigation must soon supply the corroborating details which I felt were required to clearly indicate the direction and means by which a real demonstration of the facts might be conveniently obtained. These details were furnished in the highly important conclusions advanced by Dr. Percy Frankland, F.R.S., dealing with the subject at last year's Congress of the British Association at Nottingham, which, I venture to think, afford the clue to the ultimate results of phenomena described, and also, short of demonstrating the facts, define the modification influence which operates in nature through organic reactions in air. The following quotation from Dr. Frankland's address on Bacteriology at the Congress of the British Association in 1893 contains the conclusions referred to:—1. "The science of bacteriology dates from the introduction by Koch of the method of pure cultures some twelve years ago. Microscopical determinations, at first entirely relied upon, had given way more and more to chemical tests, but the differentiation and identification of 'particular species' remain very difficult, and, indeed, become more and more so." Comment is needless, beyond asking the question, Why, unless a modifying

[1] Brit. Med. Jour., April 7th, 1891.

influence expands in sympathy with ever-increasing volume of putrefactive sewage, should identification of "particular species" remain with experience very difficult, and, indeed, become "more and more so"? 2. "By educational culture the character of an organism may be quite changed. On the other hand, the virulence can be increased, although *as yet* no pathogenic organism 'has been raised' from non-pathogenic, but as 'similar modification processes' evidently go on in nature we must grant that bacilli acquire new characteristics under new conditions." The question here is, Does chemistry or nature itself in other direction afford us the study of similar conditions to those prevailing in sewers? If not, we must admit that organic life exposed to such influence must adapt its function to surroundings. How this adaptation works is the very essence of the actual demonstration required. 3. "We have real anthrax and an exceedingly similar innocuous modification, both occurring in the soil. Many toxic forms—cholera, typhus, diphtheria bacilli—have pseudo-forms. In certain cases the modification may be due to the exclusion or exhaustion of oxygen. Assuming fermentation in presence of air to be normal, as in the early days of Pasteur, a modified reaction can apparently proceed when no more oxygen is at disposal, so that we have also anaerobic fermentation." We have here the modification influence defined, and also the answer to both the questions asked; whilst, as regards the influence exerted by organic impurity in air, we find that all available evidence supports the view that an actual demonstration of facts of the first importance to the medical profession and the public at large is alike possible and much to be desired.

In recent experiments made with a special form of apparatus suggested by results described I have, I believe, secured the means of convenient observation of sewage reactions in every form, produced under precisely the same natural conditions which operate in town sewers under variable conditions of time, temperature, and air-supply. As regards the practical aspect, since the introduction of Koch's method of culture I have held the belief that by securing control of the nature of fermentation in sewage we secure the only effectual means of reducing that organic pollution of the atmosphere of populations which all available evidence proves the public interest demands. This control I have secured by means of halogen disinfection through the medium of air-supply. It will be remembered that similar means are relied upon to secure the disinfection of organic emanations escaping at manholes, &c., connected with the system of the London main sewers. In that case sulphurous acid is, I believe, the agent employed; the cost, however, in perhaps all other cases is prohibitive. On the other hand, by using the sulphurous vapours (given off by the storage batteries used in electric supply), in conjunction with air and complete removal of the volatile by-products of sewage, we obtain effectual control over the fermentive course, even with fluctuations in the amount of organic matter as high as 800 per cent. The fluctuations in London are doubtless of much wider range and serve to show the futility of relying on any practicable degree of aeration sufficient to meet the necessities of the case in which the oxygen required for normal course may vary in an hour between two and ten or even more grains per gallon. In such fluctuations as named we probably see the first cause of putrefactive ferment in town sewers, which ends in producing influences under which we must grant that bacilli acquire new characteristics. It is equally probable that with exhaustion of oxygen a modification begins by which the normal functions of organisms become changed. Pathology has taught us much regarding the life history of germs attending specific forms of disease, but the question still remains, How come these disease germs into existence? I am, Sirs, yours faithfully,

Sheffield. J. HILL-HARTLAND.

*** We publish this letter in view of the interest of this subject, but we have been compelled to reduce the great length of the original communication.—ED. L.

"THE REMUNERATION OF THE RESIDENT OFFICERS OF ST. BARTHOLOMEW'S HOSPITAL."

To the Editors of THE LANCET.

SIRS,—If you will kindly allow me a little space I should like to reply to your correspondent "Fair Pay" in the matter of his letter about the pay of the resident officers at St. Bartholomew's. What are his facts: (1) the residents get £25 per annum; (2) during the six months they are in residence they have to pay for their food. These are perfectly correct, but "Fair Pay" might remember that wages or salary are regulated by the laws of supply and demand. There is no doubt that even if the residents had to pay a fee for holding the resident appointments there would be no lack of candidates, so that under the present *régime* there is something to be thankful for.

Now I am certain that no one who has been on the junior staff of St. Bartholomew's will deny that the experience he gained, and, to use a colloquialism, the general good time he had, were worth far more than the £50 which he spent on his food. Whether he were in the service of the hospital or not, he would have to eat, for the average man cut of whom a resident officer is made is of coarser mould than Eve Fliegen, the lady who lived on the smell of flowers. Finally, if "Fair Pay" has anything to do with St. Bartholomew's, why does not he say so? If he has not, he appears to be interfering in a matter which cannot concern him—unless, indeed, he is the parent of a house physician or surgeon.

I am, Sirs, yours faithfully,

AN OLD HOUSE SURGEON OF ST. BARTHOLOMEW'S.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Recent Severe Weather.

THE severity of the frost here may be judged by the appearance of ice in the Mersey. Fourteen years ago the river was in parts frozen over, a most unusual sight, and again has this sight been witnessed. The training ships have been as icebound as if they had been in Arctic regions, and ferry steamers have had to plough their way through the ice. As many as 15° F. of frost have been registered in the city itself, while in the suburbs an even lower temperature has been reached.

The Medical Charities.

During the months of January and February the annual meetings of all the medical charities are held. These all show a continuation and aggravation of the state of chronic bankruptcy into which our hospitals and dispensaries are permitted to languish. The Royal Infirmary owes its bankers £3000, the Northern Hospital owes £4000, and the Royal Southern Hospital has a balance on the wrong side of £5000. Thus a total of £12,000 will be required to free these three institutions from debt, and then the struggle between an insufficient income and a heavy expenditure will begin again. Out of the half million inhabitants of this city not more than ten thousand at the very most are annual subscribers to the medical charities. A prominent citizen remarked at the annual meeting of the Royal Southern Hospital yesterday that with a few honourable exceptions the shopkeepers did not support the charities as they deserved, and from what has just been stated it must be obvious that there is plenty of room for improvement.

The Lord Mayor and the Hospitals.

The Lord Mayor (Mr. Watts) has shown his interest in the various hospitals, not only by presiding at the annual meetings (except at the Royal Infirmary, when Lord Derby presided), but also by visiting them. In addition to the hospitals already alluded to his lordship has visited the Hospital for Consumption and the Liverpool Eye and Ear Infirmary. These visits from the chief magistrate are very greatly appreciated.

Salting the Streets: the Removal of Snow and the Unemployed.

The question as to whether the salting of the streets after snowstorms is or is not a desirable practice has again come to the fore. On the one hand, it is contended that it is cruel to horses and barefooted persons, and also to the public generally, since it intensifies the coldness of the atmosphere. It is urged, on the other hand, that in such a city as this, with 300 miles of streets, it would be impossible to remove the snow in any other way. The usual scavenging staff was augmented by casual helpers, but only a very small proportion of the number required applied out of the alleged large number of unemployed. It is to be feared that too many of these men prefer idling and hawking their grievances in the streets to honest efforts to obtain work, forgetting or ignoring that such conduct may end in a reappearance of typhus fever.

The Alleged Compulsory Vaccination of Liverpool Firemen.

A paragraph appeared in the local papers stating that a fire had taken place at the Small-pox Hospital and that all the members of the police fire brigade who were present had to submit to compulsory vaccination. In consequence of this Mr. Hopwood asked the question in the House of Commons of the Parliamentary Secretary of the Board of Trade on Tuesday last. Sir Walter Foster answered that there was no compulsion, nor could there be. The idea of forty or fifty policemen being compulsorily vaccinated by the resident medical staff of a hospital would be ludicrous to anyone except the learned recorder of Liverpool, whose sense of the humorous is absorbed in his chronic horror of compulsion. The hospital had at the time cases of small-pox more or less severe, some of the firemen had never been vaccinated since infancy, none had been done recently, and many fully intended being vaccinated in accordance with the suggestion of the Watch Committee, noticed in THE LANCET of last Saturday, p. 352. To have permitted these men to return to their homes from an infected centre without strongly urging the best protection which they could have would have been gross neglect on the part of the hospital staff. All the men's arms have taken extremely well; not one has been infected with small-pox nor have incurred any ill-effects beyond those incidental to vaccinia, and many members of the police force are availing themselves of the opportunity afforded to them of being revaccinated.

Feb. 13th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Durham.

DEAN KITCHIN has come into residence, and as warden is taking a very active interest in all that concerns the University. A scheme of extension lectures, among other undertakings, has been elaborated for the benefit of the northern counties, in which the professors in the various faculties at Durham and at Newcastle are all to participate, so that there is hardly any subject, literary or scientific, which will not be dealt with. The scheme is an ambitious one, but there is every reason to believe that it will be successfully carried out and fully appreciated.

Newcastle-upon-Tyne Royal Infirmary.

The annual meeting of the infirmary governors was held on Feb. 7th, when the reports for the past year were read. The expenditure has exceeded the income by £3000, due chiefly to a falling off in contributions and dividends. The average cost of each in-patient has been £4 0*s.* 11¾*d.*, and the gross cost of each occupied bed £52 16*s.* 0½*d.* The medical report is a satisfactory one, showing a considerable increase in the number of patients treated in all departments. 1754 operations were performed. The abdomen was opened 155 times and 29 patients died. The kidney was removed 4 times with 1 death. Ten cases of stone in the bladder were treated without a death. Sixty-eight operations were performed for the radical cure of hernia with 1 death, and 14 for strangulated hernia with 3 deaths. Phelps's operation for club-foot was performed 6 times with most satisfactory results. There were 68 major amputations with 8 deaths, all but one within a few hours from shock and loss of blood; one occurred from pyæmia, the patient being septic on admission and at the time of operation. There were 25 excisions of joints without a death. The staff call attention to the want of a new infirmary in the following terms:—"The work of the infirmary is each year carried on with increasing difficulty. The house is old and inconvenient. The accommodation for in-patients is inadequate. The out-patient department is as bad as it can be. There is not living room for the staff of nurses in the building. All these and other defects render the administration difficult and expensive, and emphasise the resolution passed by the governors at the last annual meeting that a new hospital, on another site, is urgently required. The staff are unanimous as to the site on which a new infirmary can be built most advantageously."

University of Durham College of Medicine.

Messrs. Hargreaves and Joblin, trustees of the estate of the late Professor Johnson, some time Professor of Chemistry in the University of Durham, have generously presented the sum of £200 to the College of Medicine for the purpose of providing additional physiological instruments.

Newcastle-upon-Tyne Lying-in Hospital.

The annual meeting of governors of this charity was held in the hospital, New Bridge-street, on Jan. 30th, the Rev. J. Wilkinson, vicar of St. Peter's, being in the chair. The report of the committee showed a large increase of both in- and out-patients during the past year, 348 women having received the benefit of the charity. The treasurer's report showed a slight falling off in the annual subscriptions in 1894, but the year closed with a balance of £13 12*s.* 2*d.* to the credit of the charity. A vote of thanks to the chairman concluded the proceedings. The credit of the good financial position of the above charity is due mainly to the business capacity of Mr. Neatham, the honorary secretary.

The Medical Defence Union, Limited.

A meeting of the profession was held on Feb. 7th in the council chamber of the University of Durham College of Medicine. Professor Arnison, one of the vice-presidents, was in the chair. Mr. Victor Horsley pointed out the objects of the society and the claims for support it had upon the profession. In the course of his remarks he said the society would like to undertake the prosecution of quacks, but that it had not the means wherewith to do so. He suggested that the British Medical Association, out of its large and yearly increasing surplus, might be able and willing to give of its abundance a substantial donation to the Defence Union for this purpose. It was agreed by a large majority to refer this question to the Northern Branch of the British Medical Association for consideration. The determination was not arrived at unanimously. A prominent member of the British Medical Association expressed his opinion that it was undesirable for the two associations to be associated, and advanced arguments in which there is undoubtedly much force.

The Newcastle-upon-Tyne Clinical Society.

This society held an extraordinary meeting in the Medicine Theatre of the College of Medicine on Feb. 7th. The President, Professor G. R. Murray, occupied the chair, and introduced Mr. Victor Horsley, who delivered a most interesting and instructive lecture to a large and appreciative audience on Oxydisation in the Tissues. The lecture was illustrated by an experiment and by lantern slides. In the evening the annual dinner was held in the Hôtel Métropole. Nearly 100 members and guests assembled, among whom were Mr. V. Horsley, the Sheriff, the President of the Northumberland and Durham Medical Society, and others. Professor Murray occupied the chair. An excellent dinner was provided, and a very pleasant evening spent.

The Toy Pistol again.

A youth is under treatment in the Royal Infirmary, Newcastle-upon-Tyne, owing to a pistol accident. He was amusing himself in his bedroom firing at a mark. The pistol was a breechloading one, and to open the breech it was necessary to turn the barrel at a right angle, the muzzle being directed towards the person loading it. Not infrequently the pistol misfired, and it was after such an occurrence, the cartridge being *in situ* but unexploded, that in the attempt to extract it the breech was opened. Immediately the cartridge exploded, the ball entering the lad's chest, which was bare just over the heart. On admission, nearly three weeks after the occurrence, the lad was in a very critical condition, the left chest being filled with pus. He had never spat blood, and did not suffer much inconvenience till fluid accumulated. The chest has been incised and the lad is progressing satisfactorily. How long are these dangerous weapons to be legally sold as toys?

Newcastle-upon-Tyne, Feb. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Discussion on Cardiac Therapeutics at the Medico-Chirurgical Society, Edinburgh.

AT the meeting of this society last week a discussion on Cardiac Therapeutics was inaugurated. There was a considerable attendance of members and a goodly number of senior students, whose presence made the room somewhat crowded and the atmosphere oppressive and unhygienic.

The opening of the discussion devolved upon Dr. Fraser, Professor of Materia Medica and Therapeutics and an infirmary physician. It was, of course, an admirable opportunity for a masterly statement of the present position of the subject from a purely scientific standpoint, as well as from a practical one, tested and weighed by the results of a considerable experience in hospital practice. The opener, however, devoted himself almost exclusively to strophanthus. Its pharmacological action was indicated, and its practical use was illustrated by a number of hospital cases in which he had used it with success. The insistence on the merit of one drug would have been more effective had the discussion been one on strophanthus; as an introduction to the larger subject it necessarily was less so. Dr. Fraser was followed by Dr. G. W. Balfour, who expressed his determined adherence to digitalis. The discussion was postponed for a fortnight, and Dr. Bramwell, Dr. Russell, Dr. Gibson, and others are expected to speak at the next meeting.

President's Reception at the Royal College of Physicians of Edinburgh.

Last Friday night Professor Gairdner and Mrs. Gairdner gave a reception to the Fellows of the Royal College of Physicians in the College rooms in Queen-street. The rooms are large, and as few save Fellows and the ladies who accompanied them were present they had a somewhat bare and empty look. Much, however, had been arranged for the edification and entertainment of the guests. In addition to a good supply of music there were interesting demonstrations by Professor Rutherford, Dr. Carlier, and Dr. Gustave Mann, while Professor McKendrick had sent a phonograph which provided a variety entertainment in itself.

Health of Edinburgh.

Amongst the deaths in Edinburgh last week were two from small-pox. Three fresh cases of this disease were reported. Measles have reached an epidemic level, 580 cases having been reported during the week.

Glasgow Royal Infirmary.

The recently issued annual report of this institution—interesting as being the hundredth annual publication of its kind—shows that during the year 1394 the admissions were 5527; deaths, 540; mortality, 9·7 per cent., or, deducting 122 deaths occurring within forty-eight hours of admission, 7·7 per cent.; average residence of in-door patients, thirty-five days. The cost of each fully occupied bed was £56 2*s.* 8*d.*, and the average cost of each patient treated to a conclusion, £5 8*s.* 11*d.* In the out-door department 55 104 consultations were held. The total revenue of the infirmary for the year was £30,505 15*s.* 6*d.*; total expenditure, £30,143 12*s.* 2*d.*; giving a surplus on the year's work of £362 3*s.* 4*d.* The managers intend to extend the pathological department and spend on the project £8000, for which sum they appeal to all those interested in the welfare and efficiency of the infirmary. For a long time everyone has been dissatisfied with the accommodation provided for the pathological department, which has really undergone very little change since it was first organised, while the house at large has been altered and extended in every way. The managers also acknowledge a complete electrical plant, consisting of gas-engine, dynamo, and all the accessories required for surgical and medical treatment and diagnosis, together with an electric lantern microscope for teaching purposes.

Public Health in Glasgow.

The death-rate in Glasgow for the past week has risen to 32 per 1000, an increase due to the present extreme cold. There has been but one case of small-pox reported since last Wednesday (Feb. 6th), while there have been dismissed from hospital, making a net decrease of two cases, there being now but 37 in Belvidere Fever Hospital.

Glasgow: Inconveniences caused by the Frost.

The Victoria Infirmary is entirely dependent on its boilers and engines for cooking, lighting (electric, there being no gas-fittings in the building), heating, and ventilation, the latter being managed on the "propulsion" system, whereby washed and warmed air is driven through the wards. When, therefore, the engines stopped for want of water for the boilers, the feed-pipe from the water main being frozen, the infirmary was at once plunged into difficulties of a very mixed kind. These have been got over for the time being by having a steam fire-engine from the city to pump water to the infirmary from the nearest hydrants. This breakdown, however, and the serious consequences to which it might easily have given rise, teaches the lesson that in an institution of the kind it is not good policy to trust to one source of energy for the performance of so many functions.

Feb. 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Health of Dublin: Quarterly Report.

DURING the quarter ended December last the births registered in the Dublin registration district amounted to 2314, or 26·5, and the deaths to 2047, or 23·4 per 1000. The number of deaths from zymotic diseases amounted to 250, or 26 over the number for the preceding quarter. Of these, small-pox caused 51 deaths, of whom 27 were unvaccinated, 21 had been vaccinated, 1 infant was vaccinated too late, and in 2 cases there was no statement as to vaccination. As regards the ages of the persons who died from small-pox and their relation to the protective power of vaccination, it is to be noted that all the 9 children under five years of age were unprotected by vaccination (1 having been vaccinated too late), and of 42 persons above five years of age, 19 were unvaccinated and 21 were vaccinated; all of those vaccinated except 1 (aged six) were over seven years of age, the period at which the protective power of primary vaccination is known to be weakened. Enteric fever caused 45 deaths, or 10 over the number for the preceding quarter, typhus fever only 1 death, and simple continued fever also 1 only, scarlet fever caused 11 deaths, being 33 under the average, influenza 15 deaths, and diarrhœa and dysentery 55.

Richmond Lunatic Asylum.

At a meeting of the governors last Tuesday Mr. C. Norman, resident medical superintendent, reported that there were at present in the asylum 715 male patients and 765 female patients, or a total of 1480. These numbers were respectively 210, 170, and 380 above the nominal limit of accommodation. Since the last meeting of the board five fresh cases of dysentery had occurred in the asylum and two deaths had taken place.

The Battle of the Clubs at Cork.

A meeting of the City of Cork Branch of Oddfellows was held last week. The proceedings, for obvious reasons, took place inside closed doors, and only an official communication appeared in the local press, yet the amount of information allowed to filter through is well worth recording as illustrating the frame of mind of many of the club members, and demonstrates pretty clearly the slow, but sure, crystallising process which is taking place. One of the brotherhood moved a resolution—of which he had given notice—that a member of the lodge need not contribute to the fund for the medical officer if he did not choose to do so. In other words, the proposition was that all should subscribe to the fund for relieving sick members and burying deceased ones, but that if any member did not care to engage the services of the newly appointed medical man he would be under no obligation to contribute to his salary. This proposition very nearly commended itself to a majority of those present. The resolution was finally rejected, but only by the casting vote of the chairman. That decision clearly meant that fully one-half of those in the room were anxious to be at liberty to call in any medical man they might select. What may be the action of this thoughtful half remains to be seen, but to-day large posters are exhibited announcing that a meeting is to be held on the 21st inst. to consider the dispute. As it is ostentatiously mentioned that there will be free admission I have no doubt many of the affluent members of the clubs will find no difficulty in putting in an appearance, and the medical men may be prepared for the ordinary amount of oratorical vituperation. But any thoughtful observer will ask what is the need for this meeting at all. The practitioners of the city considered the services of a medical man ought not to be offered to the clubs at a lower rate than certain specified prices. The clubs thought differently, and after searching north and south, east and west, they find some six or eight members of the medical profession ready to accept their terms. Out of this group each recalcitrant club and association has made its selection. If happy in their choice, why seek to evoke public sympathy in their favour? The local practitioners see no necessity for

rushing into the market-place. Deeds, not words, is their motto. They are quite satisfied as to the justice of their action, so they simply rest on their oars and are quiet observers of current events. Since the snow commenced to spread its white mantle over the earth one of the imported practitioners finds himself famous in the annals of one of the local newspapers. A paragraph seriously announced that the medical man was passing the College on his way to visit a patient when he was seriously assaulted with snowballs by students. The students, however, give an entirely different version. They state that they were amusing themselves and at the same time endeavouring to keep up their temperature by throwing snowballs at each other. The medical man happened to pass along, and, believing one of the snowballs was intended for him, rushed at one of the students and struck him so violently with a stick that it was broken across his back. The student turned round, and, though unarmed, went for his opponent so vigorously that the latter's practice was immediately increased to the extent of necessitating the prescribing for a case of epistaxis *in propriâ personâ*. One local print is, of course, quite satisfied that the whole thing was premeditated. The local medical men knew the imported practitioner had a patient in that direction. Then they procured a fall of snow, and, knowing from their own experience that embryo medical men could not amuse themselves without being vicious, they gave the hint to the students to be ready for action at the crucial moment. Such is the farrago to which we are now accustomed and at which we can afford to smile.

The Belfast Asylum.

At the monthly meeting of the governors, held on Feb. 11th, the medical superintendent reported that the house was overcrowded, there being 645 patients in residence, and it was necessary to supply more bedsteads in the corridors for the accommodation of the patients admitted. The committee appointed to investigate the question of the lighting of the new projected asylum (Purdysturn House) found that gas would involve an expenditure of £100 less annually than electricity, and consequently they recommended its adoption. Regarding the sewage question, there was a difference of opinion amongst the governors. The subcommittee agreed with the architects in advising the adoption of the international system of sewage purification. Some members of the board strongly objected to this system of sewage on the ground that it had broken down when tried in London, and finally it was decided to ask the board of control to give special attention to, and to transmit their views on, the subject, and to say if they thought it suitable for Purdysturn Asylum or whether they can suggest any better plan.

The Ulster Hospital for Women and Children.

At the annual meeting of the friends of this charity, held on Jan. 31st, it was stated that there had been 8624 extern patients during the year—7049 children and 1575 women. There were 211 intern cases. An intern maternity ward has also been fitted up, which has been found of much value. Dr. Mitchell has been appointed a member of the staff in place of Dr. John Scott (deceased).

Mr. O'Gorman, L.R.C.S.Irel., Ballyragget, has been placed on the Commission of the Peace for the county of Kilkenny.

Mr. W. K. Parry, A.M., has been appointed Examiner in Practical Sanitary Engineering to Trinity College, Dublin.

Feb. 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Etiology of Dysentery.

M. DE SILVESTRI[1] relates the results of his recent researches into the nature of dysentery based upon bacteriological examination of the characteristic stools, which were of a lemon-yellow colour, liquid, had floating in them lumps of blood-stained mucus, and emitted a very marked fæcal odour. The microscope brought to view particles of undigested food, débris of epithelial cells, red blood-corpuscles, and numerous bacteria, amongst which a diplococcus predominated largely. A culture yielded a number of colonies composed almost exclusively of the diplococcus referred to above. This micro-organism is round, stains with difficulty, is not coloured by Gram's method, and does not liquefy gelatine. It grows rapidly (in eight hours) in different media. A culture of the diplococcus mixed with sterilised water and injected per rectum into a dog and two cats determined diarrhœa quite recalling the characteristic features of that of dysentery, the stools containing the diplococcus. M. de Silvestri opines that there exist several varieties of dysentery due to different specific micro-parasites, but that the *origo mali* in the epidemic observed by him was the diplococcus in question.

The Temperature in Experimental Diphtheria.

MM. Courmont and Doyon[2] have been engaged in studying the oscillations of temperature in the dog, the rabbit, and the guinea-pig inoculated with diphtheria toxines. With a small dose hypothermia lasting from five to six days appears after an interval of eighteen hours. The animal survives, but is paralysed. A larger dose determines at first a fall of 1° to 2° C., lasting about fifteen hours, when a further fall suddenly occurs, and the animal dies in one, two, or three days, with a rectal temperature of only 30° or even 25° C. A still stronger dose (50 c.c.) brings about hypothermia after a reduced incubatory period of two or three hours, and the animal quickly succumbs. Death may occur even before the onset of hypothermia. From these experiments it would appear that the diphtheria toxine is endowed with hypothermic properties and that the fall of temperature is always preceded by an incubatory period varying, according to the dose administered, from two to eighteen hours. The fall is quicker or slower according as the medium in which the animal is placed is cold or warm. That the hypothermia is not the cause of death is proved by the fact that it supervenes as rapidly in animals placed in an oven at 40° C. as in those kept in the cold and whose rectal temperature has descended before death to 25° C.

The New Premises of the Academy of Medicine.

I have on several occasions referred to the insufficient accommodation afforded by the dingy building in the Rue des Saints-Pères, which, although only a *dépendance* of the Charité Hospital, is the home of the learned body, the Paris Academy of Medicine. In the near future the Academy will be transferred to more commodious quarters in the Rue Bonaparte, near the École des Beaux-Arts. Here an unoccupied building belonging to the Assistance Publique has been allotted to the corporation, who can only be congratulated on the long-desired change.

"English as she is wrote."

Summoned to attend the child of one of my patients the other day, I found that, alarmed by baby's serious state, a French *confrère* had already been sent for and left directions which a neighbouring French druggist had translated for the benefit of the English nurse in charge. The document is too amusing to be passed over, and I therefore make no apology for transcribing it, together with the necessary explanation within parentheses supplied by myself: 1. To distend the children of other children. (To isolate the baby from her sister.) 2. Not many flower in the eat and not give him that milk prepared. (Suppress farinaceous food and also the milk as hitherto prepared.) 3. Before the col of children une éponge warm." (Apply a hot sponge to the child's throat.) 4. Every body that have occupation of children wild vhach the hands in liquor of van Swieten. (Every person coming in contact with the child to wash his hands in van Swieten's solution.) 5. All the linen deteriored shall be whach in solution before londres. (All soiled linen to be washed in the solution before being sent to the laundress.)

Death of Professor Regnauld.

The death is announced of M. Regnauld, Honorary Professor of the Paris Faculty of Medicine. Before he had reached the age-limit necessitating retirement he occupied for many years the chair of Pharmacology. I well remember how, at the first examination I passed at the Faculty, he propounded to me, in his own genial fashion, a question on induction, and how he exclaimed, "Votre compatriote Faraday était, à mon avis, le plus grand savant qui ait jamais existé. J'ai eu l'honneur de lui serrer la main à Lyon en 18—."

Feb. 12th.

[1] Société de Biologie, Feb 2nd.

[2] Loc. cit.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Czynski Trial.

A MOST remarkable case was brought before a jury of Munich some weeks ago. A Pole, Czynski by name, gave in several German towns hypnotic *séances* which were largely attended by sick people. In the course of these performances he made the acquaintance of a certain rich and noble spinster who consulted him at first unromantically for stomach affection. Later their relations became more intimate, and finally, it appears, the lady became Czynski's mistress. He, it seems, was not yet divorced from his first wife, and a marriage ceremony, which he went through with his victim by the usual help of a friend in the *rôle* of clergyman, was a sham. At the instance of the lady's brother Czynski was arrested on a charge of "crime against morality." The public attorney's indictment accused the prisoner of having violated the lady while in a state of hypnosis. The defendant denied the crime, and asserted that the lady loved him and had married him of her own free will. Czynski's counsel submitted that it would not be possible to deprive a person of will by hypnosis, and medical men were summoned as experts to give evidence to this end. Professor Fuchs of the University of Bonn asserted that hypnosis was unable to annihilate the freedom of will. He had seen hypnotised people in Paris and was persuaded that they had done what the operator ordered them either to oblige him or to pose as interesting. In short, he held all hypnotism to be a farce. Professor Preyer and Professor Hirt declared that they were of an entirely contrary opinion, but they also said that the Paris experiments quoted by Professor Fuchs did not prove anything, as nearly all the mediums there were drilled for hypnotic performances. The jury finally acquitted Czynski of having violated the lady while in a state of hypnosis, but condemned him to three years' imprisonment for frauds in connexion with the false marriage. Professor Preyer has given his opinion of the verdict in the *Deutsche Medicinische Wochenschrift*. He declares himself to be fortified in his view that Czynski not only hypnotised his victim but also her companion, who had acted as witness at the wedding ceremony, and even the man who impersonated the clergyman. He has come to this result after examination of their signatures to the marriage register, which, he believes, offer some very characteristic signs. He also alludes to a condition where the person is not really reduced to hypnotic somnolence, but is merely influenced by the strong will of the operator. This state, which he has sometimes seen, especially in people of a weak character, he terms "abulia." The questions involved being of great medico-legal and scientific interest, the various professors called as experts intend to collaborate in producing a pamphlet on the case.

The Number of Medical Men in Germany.

The number of German medical men increases from year to year. At the end of 1894 there were 22,287 medical men, whilst there were 21,621 in 1893, and 16,864 only in 1887. Of these, 1834 live in Berlin, 438 in Munich, 355 in Breslau, 314 in Leipzig, 236 in Hamburg, 233 in Frankfort, and 220 in Strasburg. There are now on an average 4·5 medical men for 10,000 inhabitants, in 1887 there being only 3·6. The number of dentists equally has increased from 915 in 1893 to 1007 in 1894.

How should the Surgeon clean his Hands?

In Germany the usual method for surgeons to clean their hands is that of Fürbringer. It consists in brushing the hands and nails with soap and hot water, then dipping them in an 80 per cent. alcohol solution, and finally washing with a 2 per cent. sublimate of mercury, each part of this proceeding to last one minute. Recently Reinecke of Leipzig has asserted that a sure disinfection of the hands may be obtained by rubbing them with alcohol only and washing afterwards with pure sterilised water. The alcohol owes its power to its action in dissolving the sebaceous substance on the surface of the skin and enabling the bacteria which adhere to it to be easily washed away. Instead of brushes, which are difficult to clean and which irritate the hands, he recommends loofah sponges. Another reformer in this matter is Dr. Schleich, who rejects all brushing, and only washes the hands with a soap invented by himself, which consists of domestic soap (one part), marble powder (three parts), and lysol (4 per cent. of the whole). This soap is said to clean less by chemical than by mechanical means, the fine marble powder penetrating into all the folds of the skin and rubbing away all dirt and detritus.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

The Antitoxin Treatment of Diphtheria in Russia.

THE main source of supply of the diphtheria antitoxin in St. Petersburg is the Imperial Institute of Experimental Medicine. Serum derived from German firms is also on sale in the druggists' shops in the city. The serum which the Institute supplies is partly obtained from Germany and partly prepared in the laboratories of the Institute. In the first two weeks of the present year (Old Style) the Institute sold as many as 2500 bottles of the serum, for which they received some 8500 roubles (nearly £900 at the present rate of exchange). The price of the antitoxin in St. Petersburg appears to be fairly constant, but in some provincial towns, it is worthy of note, where it is on sale at druggists' shops, the price varies enormously. For instance, in Kharkof some druggists charge 5 roubles while others charge 20 roubles for exactly the same quantity of serum. The profit in the latter case must be considerable. But little has been published yet as to the clinical results obtained in Russia by the use of the antitoxin in the treatment of diphtheria. At a meeting of the Society of Specialists in the Diseases of Children Dr. Rauchfus reported thirty completed cases occurring in the Prince of Oldenburg's Hospital for Children in St. Petersburg in which he had employed the new treatment. Of the 30 cases, 19 recovered and 11 died; this gives a death-rate of 36·6 per cent. All the cases were well-marked cases of diphtheria, and in all the presence of Löffler's bacillus was demonstrated. The average age of the nineteen children who recovered was 4·6 years; they were admitted on the third to the sixth day of the disease; separation of the membrane began two and a quarter days after the first injection and lasted for five and a half days. Most of the patients had albuminuria. Of the 11 fatal cases the majority were children of one to three years of age; in all of them the symptoms were stated to have been extremely severe, and the majority died within twenty-four hours after injection. All the cases were treated during November and December. During these months one half of the diphtheria cases admitted to the hospital were treated by the method of serum injection and the other half by the older methods of treatment. The mortality among the former was 36·6 per cent., while among the latter, who received no injections, it was 52 per cent. Erythema was a frequent result of the new treatment; it appeared equally often, whether Behring's or Roux's serum were employed. In conclusion, the writer of the paper considered his results as encouraging, though not conclusive. He mentioned that Professor Filatof had obtained much better results: he had treated 9 cases, with only 1 death.

Changes in Russian Medical Journals.

The *Chirurgitcheski Viéstnik*, or *Surgical Messenger*, the monthly journal edited by Dr. Veliaminof, is henceforth to be called the *Russian Archives of Surgery*, and will appear quarterly instead of monthly, as heretofore. The removal of Professor Kovalevski from Kharkof to Warsaw, in consequence of his appointment to the Rectorship of the Warsaw University, will affect two medical journals. The *Archives of Psychiatry, Neurology and Legal Psychology*, hitherto published in Kharkof, will now be published in Warsaw; and the *Journal of Medicine and Hygiene*, published by the Kharkof Medical Society, will cease to exist.

Forthcoming Medical Conferences in Russia.

A conference of practitioners in the province of Podolia has been summoned to meet this month in Kamenetz-Podolsk, the capital of the province, to discuss the cholera epidemic, from which Podolia has suffered more severely than almost any other part of Russia during the past three summers. It is proposed to hold next year in Russia a conference of syphilologists. The tenth congress of Russian naturalists and physicians will be held in Kief next year.

St. Petersburg, Feb. 9th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Condemnation of the Game of Football.

A RECENT football match between the students of two of our colleges, the most important because the most popular trial of the year, was attended with so much "slugging" that the immense audience were thoroughly disgusted with the scenes of brutality which they witnessed. Even experts in the game were compelled to protest against the inhuman acts which were encouraged by the managers on both sides. A large number of severe and crippling injuries have been recorded, and the surgeon and his assistants were as busy as a surgeon on the field of battle. The result of this contest between the teams of two favourite colleges has been a severe set-back to this hitherto popular game. In the opinion of the President of Harvard University the game of football grows worse and worse as regards foul and violent play and the number and gravity of the injuries which the players suffer. It has become perfectly clear that the game as now played is unfit for college use. The rules of the game are at present such as to cause inevitably a large number of broken bones, sprains, and wrenches even during trial or practice games played legitimately; and they also permit those who play with reckless violence or with shrewd violations of the rules to gain thereby great advantages. What is called development of the game has steadily increased its risks, until they have become unjustifiable. Naturally the public is losing faith in the sincerity of the professed desire of coaches, captains, and promoters to reform it. The players themselves have little real responsibility for the evils of the game. They are swayed by a tyrannical public opinion—partly ignorant and partly barbarous—to the formation of which graduates and undergraduates, fathers, mothers, and sisters, leaders of society, and the veriest gamblers and rowdies all contribute. The state of mind of the spectators at a hard-fought football match cannot but suggest a query as to how far these assemblies differ at heart from the throngs which enjoy the prizefight, cockfight, or bullfight, or which in other centuries delighted in the sports of the Roman arena. Several fatal accidents have happened this year to schoolboys and college students on the football field, and in every strenuous game now played, whether for practice or in an inter-collegiate or other competition, there is the ever-present liability to death on the field. It is often said that by employing more men to watch the players, with authority to punish instantly infractions of the rules, foul and vicious playing could be stopped. The sufficient answer to this suggestion is that a game which needs to be so watched is not fit for genuine sportsmen.

A National Health Department.

The President has urged upon Congress in a recent message to that body the necessity of such legislation as will create a well-organised and efficient Health Department in the general Government. This is the first time that a President has recommended a national board of health in decided and emphatic language. He says: "I am entirely convinced that we ought not to be longer without a national board of health or national health officer charged with no other duties than such as pertain to the protection of our country from the invasion of pestilence and disease. This would involve the establishment by such a board or officer of proper quarantine precautions or the necessary aid and counsel to local authorities on the subject, prompt advice and assistance to local boards of health or health officers in the suppression of contagious disease, and in cases where there are no local boards or officers the immediate direction by the national board or officer of measures of suppression; constant and authentic information concerning the health of foreign countries and all parts of our own country as related to contagious diseases; and consideration of regulations to be enforced in foreign ports to prevent the introduction of contagion into our cities and the measures which should be adopted to secure their enforcement." There seems to be at this time a decided inclination to discuss measures of protection against contagious diseases in international conference with a view of adopting means of mutual assistance. The creation of such a national health establishment would greatly add to our standing in such conferences and improve our opportunities of availing ourselves of their benefits. At the last session of Congress several Bills were under discussion as to creating a health department, but no measure was finally agreed upon. A new Bill has now been drawn with respect to which all parties unite and which will meet with no effective opposition.

Feb. 1st.

Obituary.

CHARLES MOSS, M.R.C.S. Eng., L.S.A.

MANY old King's College men will hear with regret of the death of Mr. Charles Moss on the 8th inst. from acute intestinal obstruction. He was seized with abdominal pain on the previous day, and though evidently ill he kept an appointment at Dr. Wharton Hood's house in the afternoon, but while there he fainted and was taken home in a cab. Dr. Duffin saw him the same night and again the next morning in consultation with Dr. Cayley, and it was agreed to ask Mr. Christopher Heath to see him at midday on Friday, but he died before the consultation was held. Charles Moss was a native of the Cape of Good Hope, and went to King's College older than the average student. He became a Member of the Royal College of Surgeons of England in 1862, and was for some time house surgeon at the Moorfields Ophthalmic Hospital. Here he had considerable experience in the administration of anæsthetics, so that he was prepared to take up that work for Sir William Fergusson, both at the hospital and in private, when the late Dr. Anstie gave it up about 1863. Mr. Moss for many years absolutely discarded chloroform, and invariably administered the A.C.E. mixture when not giving gas for dental operations. He was able to boast that he had never had a fatal case in his long practice, and looked upon strong ammonia inhalation as his sheet-anchor in cases of heart failure. He held the post of anæsthetist to King's College Hospital for many years, but upon the retirement of his old friend Mr. Henry Smith he resigned, and of late years had confined himself to the practices of old friends, by whom he was much appreciated, both professionally and socially. He was buried at Kensal-green on Wednesday last.

ALBERT RICHARD WAGHORN, M.D. ST. AND., M.R.C.S. ENG., L.S.A.,

SURGEON-MAJOR, BENGAL ARMY (RETIRED).

DR. ALBERT RICHARD WAGHORN, whose death we regret to announce as having taken place on Feb. 6th, received his medical education at King's College Hospital. He became a Member of the Royal College of Surgeons and Licentiate in Midwifery in 1854. In June of the same year he received his commission in the Indian army, and shortly after went to Calcutta in charge of troops. When the mutiny broke out he was serving as civil surgeon at Hirsar in the Punjab. The other English officials with their wives took refuge at the time of the massacre; this he refused to do, and offered the use of his camels to the women, but this offer was declined. Every European in the place was murdered with the exception of himself and a sergeant who remained with him in his bungalow. Mounting a camel he rode with this man out into the jungle, and after wandering for a night and day made his way to Delhi. Dr. Waghorn was Surgeon-Major in the Bengal army. He served at the siege, assault, and capture of Delhi in 1857, receiving a medal and clasp, and in the Bhootan campaign in 1865, for which he received a similar decoration. He was Acting Superintendent of Vaccination for the North-West Provinces in 1867–8, and subsequently Civil Surgeon of Mirzapore. During 1872–3 he was on leave in England, and became a Licentiate of the Society of Apothecaries and an M.D. St. Andrews. On his return to India he served with the 26th Native Infantry until he retired from the service in 1881. From that time until 1893 he was in practice at Redhill, when his health failing he retired from active work. Dr. Waghorn contributed to THE LANCET of Nov. 15th, 1873, an account of an Unusual Case of Urethro-vesical Calculus and quick Recovery, and an article on Stimulants in the Treatment of Pneumonia on Aug. 3rd, 1878.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—Dr. D. Hicguet of Liége, a well-known and much regretted surgeon of that city. He was chief surgeon to the *Hospice*

des Anglais and one of the founders of the Liége Medico-Chirurgical Society. During the Franco-German War he had a large number of wounded under his care at Liége, and in recognition of his services to the French he received the ribbon of the Legion of Honour. He wrote various papers on surgical subjects in French and Belgian Medical Journals and was one of the earliest members of the staff of *Le Scalpel*. He had been in practice for some forty-five years.—Dr. D. K. Rodzievski, Extraordinary Professor of Pharmacology in the University of Kharkoff.—Dr. L. Rouge, formerly editor of the *Bulletin de la Société Médicale de la Suisse Romande*.—Dr. H. C. Lombard, President of the International Congress of Hygiene and Demography held in Geneva in 1882.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations, and having conformed to the by-laws and regulations, have been admitted Members of the College:—

Andrews, Henry Arthur, L.R.C.P. Lond., St. Bartholomew's Hospital.
Ashton, Joseph, L.R.C.P. Lond., St. Mary's Hospital.
Astbury, Thomas, L.R.C.P. Lond., Mason College and Queen's and General Hospital, Birmingham.
Badcock, Ernest Reginald, L.R.C.P. Lond., London Hospital.
Bagshawe, Arthur William Garrard, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Barber, Maurice Charles, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Barford, Percy Crompe, L.R.C.P. Lond., St. Bartholomew's Hospital.
Barker, Gordon Campbell, L.R.C.P. Lond., St. George's and King's College Hospital.
Barrett, James Wilkie Collingwood, L.R.C.P. Lond., Mason College and Queen's and General Hospital, Birmingham.
Best, Frederick Henry de Graves, L.R.C.P. Lond., St. Bartholomew's Hospital.
Bloomfield, Herbert Wadmore Gissing, L.R.C.P. Lond., St. Bartholomew's Hospital.
Bousfield, Arthur, L.R.C.P. Lond., King's College Hospital.
Brakenridge, Francis John, L.R.C.P. Lond., St. Thomas's Hospital.
Brewerton, Elmore Wright, L.R.C.P. Lond., St. Bartholomew's Hospital.
Bromet, Edward, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Brooks, William Patrick, L.R.C.P. Lond., Charing-cross Hospital.
Bryant, Charles Henry, L.R.C.P. Lond., Durham University and Guy's Hospital.
Burrell, Lionel Cottingham, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Candler, George, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Chapman, Walter, L.R.C.P. Lond., Mason College and Queen's and General Hospital, Birmingham.
Charsley, Gilbert William, L.R.C.P. Lond., Oxford University, Mason College and Queen's and General Hospital, Birmingham.
Christmas, Robert William Samuel, L.R.C.P. Lond., Charing-cross Hospital.
Clay, David Lloyd, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Clay, Francis Edmund, L.R.C.P. Lond., Westminster Hospital.
Cole, George, L.R.C.P. Lond., King's College Hospital.
Collier, Henry William, L.R.C.P. Lond., Guy's Hospital.
Collings, Dudley Willis, L.R.C.P. Lond., St. Bartholomew's Hospital.
Connell, Walter Thomas, L.R.C.P. Lond., Kingston General Hospital and Queen's University, Kingston, Canada.
Constable, John Cecil, L.R.C.P. Lond., Guy's Hospital.
Cotter, George Edmond Wentworth, L.R.C.P. Lond., Cambridge University and St. Mary's Hospital.
Crossley, Richard, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Cummings, Arthur Pollard, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Cunliffe, Thomas Varley, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Currey, Edmond Francis Neville, L.R.C.P. Lond., St. Bartholomew's Hospital.
Daniel, Edgar George Clement, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Davidson, Guilford, L.R.C.P. Lond., St. Thomas's Hospital.
Davis, Henry John, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Dawes, Christopher Dering, L.R.C.P. Lond., St. George's Hospital.
Dillon, Rupert Wentworth, L.R.C.P. Lond., St. Thomas's Hospital.
Dockray, John Smalley, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Duke, Robert Everet, L.R.C.P. Lond., University College Hospital.
Eder, Montague David, L.R.C.P. Lond., St. Bartholomew's Hospital.
Ensor, Cecil Arthur, L.R.C.P. Lond., Guy's Hospital.
Escombe, William, L.R.C.P. Lond., Charing-cross Hospital.
Evans, Edgar Griffith, L.R.C.P. Lond., Guy's Hospital.
Every-Clayton, Leopold Ernest Valentine, L.R.C.P. Lond., Guy's Hospital.
Finch, Herbert Jonathan, L.R.C.P. Lond., Westminster Hospital.
Flint, Thomas Buxton, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Forrester, William, L.R.C.P. Lond., Bengal Medical College, Calcutta, and St. Thomas's Hospital.
Fry, Augustine Cradock, L.R.C.P. Lond., Guy's Hospital.
Gibbes, Lewes Nicholas, L.R.C.P. Lond., St. George's Hospital.
Giles, Leonard Thomason, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Greenway, Charles Melville, L.R.C.P. Lond., Guy's Hospital.
Greenwood, Augustus Charles, L.R.C.P. Lond., Middlesex Hospital.
Hampton, Thomas, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hancock, George Charles, L.R.C.P. Lond., Westminster Hospital.
Handley, William Sampson, L.R.C.P. Lond., Guy's Hospital.
Harding, Lionel Nicholson, L.R.C.P. Lond., Cambridge University and St. Mary's Hospital.
Hayes, Reginald Hewlett, L.R.C.P. Lond., Trinity College, Dublin, and Guy's Hospital.
Hedges, Charles Edward, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Henderson, Robert, L.R.C.P. Lond., Guy's Hospital.
Hinds, Herbert Austen, L.R.C.P. Lond., Guy's Hospital.
Hodge, Albert, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Home, Alfred Lucette, L.R.C.P. Lond., St. Thomas's Hospital.
Hooper, Arthur Winsmore, L.R.C.P. Lond., St. Thomas's Hospital.
Horner, William Ernest Leetham, L.R.C.P. Lond., University College Hospital.
Horseman, Frederick, L.R.C.P. Lond., Yorkshire College and General Hospital, Leeds.
Horton, James Henry, L.R.C.P. Lond., Guy's Hospital.
Horwitch, David, L.R.C.P. Lond., Mason College and Queen's and General Hospital, Birmingham.
Hosford, John Stroud, L.R.C.P. Lond., University College Hospital.
Hughes, Burroughes Maurice, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hughes, Robert, L.R.C.P. Lond., St. Thomas's Hospital.
Hughes, Robert Thomas, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Hugo, James Henry, L.R.C.P. Lond., St. Bartholomew's Hospital.
Jackson, Francis Seymour, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Jacob, Frank Harwood, L.R.C.P. Lond., King's College Hospital.
James, Sydney Price, L.R.C.P. Lond., St. Mary's Hospital.
Jeffery, Charles Chimmo, L.R.C.P. Lond., Charing-cross Hospital.
Jones, Richard Llewelyn, L.R.C.P. Lond., University College Hospital.
Kearney, Charles James, L.R.C.P. Lond., Guy's Hospital.
Kettlewell, George Douglas, L.R.C.P. Lond., London Hospital.
Knight, Henry, L.R.C.P. Lond., St. Thomas's Hospital.
Leon, George Alexander, L.R.C.P. Lond., London Hospital.
Levy, Oscar Ludwig, L.R.C.P. Lond., Munich, Berlin and Freiburg Universities and Westminster Hospital.
Lewis, Gwilym, L.R.C.P. Lond., London Hospital.
Lonnon, Frederick, L.R.C.P. Lond., Charing-cross and St. Thomas's Hospital.
Mackintosh, John Stewart, L.R.C.P. Lond., St. Bartholomew's Hospital.
Mansergh, William, L.R.C.P. Lond., Owens College, and Royal Infirmary, Manchester.
Mathew, Charles, L.R.C.P. Lond., St. Mary's Hospital.
Mayne, William Sidney, L.R.C.P. Lond., University College Hospital.
Messiter, Frederic Gerald, L.R.C.P. Lond., Mason College, and Queen's and General Hospital, Birmingham.
Milward, Frederic Victor, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Morison, Henry Bannerman, L.R.C.P. Lond., Durham University and Middlesex Hospital.
Morrison, Alexander, L.R.C.P. Lond., University College Hospital.
Morrison, David, L.R.C.P. Lond., University College Hospital.
Newington, Charles Willmott Henderson, L.R.C.P. Lond., St. Bartholomew's Hospital.
Norris, Frank Baker, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Oliver, Richard Sobey, L.R.C.P. Lond., King's College Hospital.
O'Malley, Edward Dominic Joseph, L.R.C.P. Lond., Middlesex Hospital.
Osborn, Edward Collet, L.R.C.P. Lond., Westminster Hospital.
Parkinson, Walter George, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Pern, Horace, L.R.C.P. Lond., Guy's Hospital.
Phillips, John, L.R.C.P. Lond., University College Hospital.
Porter, Robert Ibbetson, L.R.C.P. Lond., Oxford University and St. Bartholomew's Hospital.
Power, Herbert Robert, L.R.C.P. Lond., St. Mary's Hospital.
Quait, Alexander Wortley, L.R.C.P. Lond., St. Thomas's Hospital.
Reeves, Albert, L.R.C.P. Lond., Guy's Hospital.
Rigby, Hugh Mallinson, L.R.C.P. Lond., London Hospital.
Roberts, Cecil David Dale, L.R.C.P. Lond., Mason College and Queen's and General Hospital.
Robertson, Frederick William, L.R.C.P. Lond., St. Bartholomew's Hospital.
Robinson, Charles Henry James, L.R.C.P. Lond., Middlesex Hospital.
Robson, Thomas Stretton, L.R.C.P. Lond., Guy's Hospital.
Rogers, Frederick Edward, L.R.C.P. Lond., London Hospital.
Rost, Ernest Reinhold, L.R.C.P. Lond., St. Mary's Hospital.
Rykert, Arthur Frederick, L.R.C.P. Lond., Toronto General Hospital and University, Toronto, Canada.
Salter, Alfred, L.R.C.P. Lond., Guy's Hospital.
Schnöller, Anton, L.R.C.P. Lond., Zurich, Lausanne, Berne and London Hospital.
Sharpin, Walter Archdale, L.R.C.P. Lond., St. George's Hospital.
Shepherd, Alfred Edward, L.R.C.P. Lond., Middlesex Hospital.
Smith, Graham Udale, L.R.C.P. Lond., King's College Hospital.
Snead, Philip Ephraim, L.R.C.P. Lond., St. George's Hospital.
Stenhouse, James Wilson, L.R.C.P. Lond., Edinburgh University.
Stokes, Frank William, L.R.C.P. Lond., University College Hospital and Durham University.

Storrs, Eric Gleadow, L.R.C.P. Lond., King's College Hospital and Yorkshire College and General Infirmary, Leeds.
Sullivan, Daniel Vincent, L.R.C.P. Lond., Queen's University and Kingston General Hospital, Kingston, Canada, and University College Hospital.
Taylor, Herbert Stockley, L.R.C.P. Lond., University College Hospital.
Thomas, Thomas Morrell, L.R.C P. Lond., Guy's Hospital.
Tinley, William Edwin Falkingbridge, L.R.C.P. Lond., St. Thomas's Hospital.
Tregenza, William, L.R.C P. Lond., Firth College, Sheffield, and University College Hospital.
Waite, Joseph Edward, L.R.C.P. Lond., University College Hospital.
Watts, Brian, L.R.C.P. Lond., Firth College, Sheffield, and London Hospital.
Webb, Arthur Lisle Ambrose, L.R.C.P. Lond., University College Hospital.
Weeks, Courteney Charles, L.R.C.P. Lond., University College Hospital.
Welch, Edmund, L.R.C P. Lond., Yorkshire College and General Infirmary, Leeds.
Wells, Thomas Henry, L.R.C.P. Lond., Middlesex Hospital.
White, Arthur Thomas, L.R C.P. Lond., Westminster Hospital.
Williams, Richard Bridgman, L.R.C.P. Lond., St. Thomas's Hospital.
Zumbado, Federico, L.R.C.P. Lond., Durham University and Guy's Hospital.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen having passed the necessary examinations have been admitted by the two Royal Colleges Diplomates in Public Health:—

Ferrand, Edward (Surgeon-Major, Madras Army), M.R.C.S. Eng. and L.R.C.P. Edin., St. Bartholomew's Hospital.
Gill, Joseph William, L.R.C.P. Lond. and M.R.C.S. Eng., Middlesex Hospital.
Helby, Ernest Hasler, L.R.C.P. Lond. and M.R.C.S. Eng., King's College Hospital.
Jones, George, M.B. and B.Ch. Oxon., L.R.C.P. Lond. and M.R.C.S. Eng., London Hospital.
Jones, Rowland Francis Hugh, L.R.C.P. Lond. and M.R.C.S. Eng., St. Bartholomew's Hospital.
Meadows, Robert Thornton, M.D. and C.M. Edin., Edinburgh University.
Moore, Samson George, M.B. and Ch.B. Vict., University College and Royal Infirmary, Liverpool.
Newton, Henry William, L.R.C.P. Lond. and M.R.C.S. Eng., Middlesex and King's College Hospitals.
Paine, Alexander, M.B. and B.S. Lond., St. Mary's Hospital.
Paine, Charles, M.B. Lond., St. Mary's Hospital.
Russell, William, M.B. and C.M. Aberd., Aberdeen University.
Simmons, Harold, M.B. and B.S. Durh., L.R.C.P. Lond., and M.R.C.S. Eng., Bristol Medical School and Middlesex Hospital.
Wilkes, George Arthur, L.R.C.P. Lond. and M.R.C.S. Eng., Mason College, Birmingham, and Yorkshire College and General Infirmary, Leeds.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Burckhardt, Extraordinary Professor of Hygiene, has been promoted to the rank of Ordinary Professor.—*Budapest:* The duties of the chair vacated by the death of Dr. Scheuthauer are to be divided. Dr. A. Genersich of Clausenburg having been appointed Professor of Pathological Anatomy and Dr. O. Pertik Professor of Pathological Histology; Drs. Szili, Goldzicher, St. Csapodi, and Feuer, Lecturers on Ophthalmology, have all been appointed Extraordinary Professors.—*Göttingen:* Dr. Nicolaier, *privat-docent* in Medicine, has been granted the title of Professor.—*Jena:* Dr. Gumprecht has been recognised as *privat docent* in Medicine.—*Lyons:* The Professorship of Hygiene and Forensic Medicine has been officially declared vacant.—*Padua:* Dr. T. Ferrari has been recognised as *privat-docent* in Midwifery and Gynæcology, and Dr. G. Dalle Ore as *privat-docent* in Operative Medicine.

THE WORTHING WATER-SUPPLY.—The new well at Broadwater, near Worthing, which is being constructed by the corporation, has again reached chalk, in which the workmen are excavating at a depth of 106 feet from the surface; 102 feet have been encased in cylinders, and the daily yield of water is put at three-quarters of a million gallons. This is being lifted by powerful pumps and discharged in a disused pit between the well and the town of Worthing. Mr. Monsergh reports that the progress is equal to his expectations, and that the supply of water is gradually increasing. The Local Government Board stipulates for a daily yield of 1,000,000 gallons before sanction will be granted to the loan which the corporation seeks to raise to cover the cost. This has to be obtained before the Corporation Stock can be issued, and the finances of the borough will be therefore somewhat crippled until the necessary yield is ascertained and maintained for a fortnight. The present temporary works at the foot of the South Downs are meanwhile being worked at considerable expense, although a very great waste of water has been remedied.

WE learn that there is an opening in Cape Colony for a thoroughly qualified medical officer of health. The salary is £1000 a year. Applications (supported by testimonials and stating the candidate's age, date when he would be prepared to enter upon his duties, &c.) will be received by the Agent-General, 112, Victoria-street, S.W., and by the Under Colonial Secretary at Capetown, up to noon on March 15th next.

ON Wednesday, Feb. 13th, before Baron Pollock and a special jury, a trial took place of great interest to medical men. Mr. Aaron Langley, a surgeon, was sued by a police constable and his wife for damages in that the defendant had, as it was alleged, seriously injured the female plaintiff by the premature use of instruments during her confinement. The jury stopped the case before the conclusion of the defendant's evidence, returning a verdict in his favour, with costs. We congratulate Mr. Langley upon such a successful termination to a very annoying position.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 31st, the President, Mr. Makeig Jones, being in the chair. A discussion on the Treatment of Diphtheria by Antitoxin was opened by Dr. Caley and Dr. Addison. Dr. Gwynne gave particulars of a severe case of diphtheria which he treated successfully with antitoxin supplied by the British Institute of Preventive Medicine. The President, Mr. Garrard, Dr. Burgess, Mr. Pye-Smith, Mr. Atkin, Dr. Martin, Dr. Samson Mathews, Mr. Lockwood, Dr. Stedman, Dr. Dyson, and Dr. Rhodes joined in the discussion.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Wednesday, Feb. 6th, 1895, Mr. F. A. Southam, M.B., F.R.C S, being in the chair. The President delivered an address on "Recent Advances in Urinary Surgery," contrasting the surgery of the present day with that of the past, and reviewing the various operative measures which have recently been introduced in the treatment of disease of the bladder, urethra, and prostate. Dr. Mules related the history of a case of operation for radical cure of hernia where, in spite of the usual antiseptic precautions, acute œdema commenced forty-eight hours after the operation, followed by sphacelus of the larger part of the scrotum, but on the side opposite to the operation. Dr. Dreschfeld, who had taken an interest in the case, showed Koch's œdema bacilli. Free incisions over the scrotum and penis, with generous diet, brought the patient from an apparently hopeless condition to satisfactory convalescence. Dr. Mules also explained a new operation for ptosis. Mr. Walter Whitehead showed a patient after excision of the scapula, and also mentioned particulars of a singular pistol accident. Dr. Wilkinson described a case illustrating difficulties in the diagnosis of abdominal tumour.

FAREWELL DINNER TO MR. WORDSWORTH POOLE, M.B., B.C. CANTAB.—A farewell dinner was given to Dr. Wordsworth Poole in the hall of the College of Guy's Hospital on Feb. 1st, the eve of his departure for Zomba to take up the duties of Government medical officer to the British Central African Administration in the Shire Highlands, south of Lake Nyassa. Mr. R. Clement Lucas, the surgeon under whom he had formerly dressed, took the chair, and was supported by a large number of Dr. Poole's friends and fellow students. In proposing the toast of the evening the Chairman said they had met together to bid farewell and wish God-speed to a former student who was about to proceed to Central Africa, where he would be exposed to risks of climate, dangers, and hardships which in this centre of civilisation it was difficult to understand or fully appreciate. The law of the land to which he was going would be little more than the law of the individual; and he wished to assure him that in any hardships or dangers to which he might be exposed he would have the support and sympathy of his fellow students and of his profession. Dr. Jameson had shown that medical men might be illustrious administrators as well as distinguished physicians. Whatever might be Dr. Poole's future they trusted that his departure would be but the commencement of a long, a prosperous, and a distinguished career. Dr. Wordsworth Poole, in reply, said that he should always look back with pleasure to the kindness and sympathy shown to him on the eve of his departure by his fellow students. A vote of thanks to the chairman for presiding was proposed by Mr. Fagge, and briefly responded to by Mr. Lucas.

WIGAN MEDICAL SOCIETY.—The annual meeting of the above society was held on Feb. 7th, and the following gentlemen were elected office-bearers for the ensuing year:—President: Wm. Mitchell Roocroft, M.R.C.S. Eng., &c. Committee: Wm. M. Roocroft, G. H. Monks, jun., C. M. Brady, R. H. Cowan, M. Benson, J. P. Molyneux, and W. C. Barnish. Treasurer: G. H. Monks, jun. Secretary: Wm. Berry, F.R.C.S. Irel. The annual dinner was afterwards held, and a good muster of members and visitors were present.

THE MEDICAL REGISTERS FOR 1895.—In answer to more than one inquiry of which both the Registrar and ourselves have been the recipients, we beg to announce that the three registers of the General Medical Council for 1895 will very shortly be published by Messrs. Spottiswoode and Co. The registers are issued as soon as they can be obtained from the printers; they have been carefully revised up to date; and the usual preliminary data have been presented in tables with such improvements as constant attention may suggest.

PENDLETON PROVIDENT DISPENSARY.—The idea of a provident dispensary is no doubt an excellent one, but it requires no little tact on the part of the various members who work it to avoid friction. From Manchester we learn that the whole of the medical staff attached to the Pendleton Provident Dispensary have sent in their resignations. The cause seems to be that some affiliated dispensaries, feeling the pinch of poverty owing to the depression in trade, sent out circulars appealing to people outside to join the dispensary. This the medical staff regarded as advertising, and very properly sent in their resignations. It is fair to say that the Pendleton committee at the annual meeting repudiated the action of the affiliated societies.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.—The annual dinner of this society was held at the Holborn Restaurant on Thursday, Feb. 7th. Dr. James Grey Glover, President of the society, was in the chair, and there was a large attendance of members and guests. Mr. Charters J. Symonds, President of the Hunterian Society, answered to the toast of the "Sister Medical Societies," proposed by Dr. R. W. Burnet; and Dr. G. Sims Woodhead caused much amusement by his description of the advantages and disadvantages of not being a "practical doctor" in acknowledging the toast of "The Guests," proposed by Mr. William Dingley. Mr. Frank Godfrey proposed the chairman's health, and a very pleasant and successful meeting of the society was brought to an end. The musical programme, of excellent quality, was provided by the members and their friends under the guidance of Drs. Malcolm and Remfry.

THE next general meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at the County and City Asylum, Powick, near Worcester, on Thursday, Feb. 21st, 1895, under the presidency of Mr. Conolly Norman, F.R.C.P.I. Dr. Cooke will read a paper entitled "A Review of the last Twenty Years at the Worcester County and City Lunatic Asylum, with some conclusions derived therefrom"; Dr. Bond will read a paper on "Atrophy and Sclerosis of the Cerebellum"; Dr. McClaughry will read a paper entitled "Influenza as a factor in the increase of Insanity in Ireland." The next examination for the medical certificate will be held in July. Those who intend to compete for the bronze medal and prize must send in their essays to the president, Mr. Conolly Norman, Richmond Asylum, Dublin, on or before May 30th. Particulars on both subjects can be obtained of the registrar, Dr. Spence, Burntwood Asylum, Lichfield.

BURROUGHS MEMORIAL.—A meeting of the personal friends of the late Mr. S. M. Burroughs was held on Tuesday, the 12th inst., at the Cannon-street Hotel, with M. Carteighe, the President of the Pharmaceutical Society, in the chair, to discuss what steps should be taken to perpetuate the memory of Mr. Burroughs, whose many good qualities and kind heart made him universally liked and esteemed. It was proposed that the memorial should take the form of a pharmaceutical Burroughs Scholarship, or that a Burroughs Benevolent Fund should be placed for administration in the hands of the council of the Pharmaceutical Society. By others it was preferred that the memorial should take more the form of a general charity. Subscriptions of over £350 were received up to the close of the meeting. It was resolved that a general committee be formed to further the objects of the meeting and that the executive committee consist of Mr. Michael Carteighe, chairman; Mr. John Moss, treasurer; Mr. H. Helbing, hon. sec.; and Messrs. Radford, Wootton, and Frank Smith. Subscriptions may be sent to Mr. John Moss, 39, Tressillian-road, St. John's, London, S.E. (Cheques to be crossed "London and County Bank.")

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Marriage with a Deceased Wife's Sister.

MR. WALTER MCLAREN has given notice that on the second reading of the Bill to legalise marriage with a deceased wife's sister he will move the following amendment—viz.: "That this House is unwilling to pass a Bill which, while altering the law with respect to marriages, creates for the first time an inequality between the position of the husband and the wife and grants a privilege to the husband by enabling him to marry his deceased wife's sister which it does not give to the wife, as it does not enable her to marry her deceased husband's brother."

The Vaccination Acts.

A number of practical points in connexion with the administration of these Acts have been put before members of the Ministry by Mr. Hopwood, who appears to keep a very watchful eye upon magisterial proceedings throughout the country.

The Consolidation of the Poor-laws.

In consequence of the intimation by the Government that they do not intend during the present session to introduce a Bill for the consolidation of the Poor-laws, Mr. George Howell has given notice that on an early day he will call attention to the matter and move: "That, in the opinion of this House, it is expedient to consolidate the whole of the 135 indexed enactments relating to the relief of the poor, and also, in the same measure, the whole of the Poor-law orders of the Local Government Board, so that boards of guardians, all rating authorities, and others interested in the administration of the laws relating to the relief of the poor shall be able to comprehend what enactments and orders are in force, to understand what powers are conferred upon the guardians, and be able to apply such statutory enactments and orders in such manner as will best accord with the spirit of the age in which we live and the altered circumstances of the times as regards in-door relief and out-door relief, temporary medical assistance, the casual poor, and temporary relief works for the unemployed."

The Registration of Plumbers.

A Bill for the national registration of plumbers has again been introduced into Parliament. Its promoters, in a memorandum, state that the chief object of the measure is to afford additional safeguards to the public health by enabling persons employing plumbers to select, when they desire to do so, persons who have given evidence of their qualification for plumber's work. There has been for several years a system of registration established in the chief centres of Great Britain and Ireland, and by the Bill it is proposed to place this system upon a broader and more permanent basis. The arrangements as to the examinations for registration will be placed under the jurisdiction of a general council representing the master and operative plumbers, the Plumbers' Company, and the chief educational and sanitary bodies of the United Kingdom, with branch councils in Scotland, Ireland, and Wales. It is proposed also to give the council power to promote technical education among plumbers and to exercise discipline among those whose names are enrolled upon the register. The Bill does not contemplate any monopoly, and it does not interfere in any way with the rights of non-registered plumbers. It prohibits, however, such men from representing themselves to be registered plumbers.

Working Men's Dwellings.

A Bill has been brought in by Mr. Wrightson to give facilities for the acquisition by working men of their own dwellings. It proposes to give power to local authorities to advance money if they are satisfied that the workman actually resides or *bond fide* intends to reside in the dwelling house in respect of which the advance is applied for, that the title to the house is good, the sale is made in good faith and the price is reasonable, and that the house is in a sanitary and tenantable condition. Restriction is put upon the amount of the advance and conditions are laid down as to the charge to be made to the workman, and certain borrowing powers are given to the local authorities for the purposes of the Act.

The University of London.

The Government have signified their intention of shortly introducing a Bill in the House of Lords with reference to the University of London.

Beer Adulteration.

The Bill for better securing the purity of beer provides that every person who sells or exposes for sale, by wholesale or retail, any beer brewed from or containing any ingredients other than hops or malt from barley shall keep conspicuously posted in the premises a legible notice stating what are the other ingredients. Penalties ranging from £5 to £20 are provided, and "beer" is taken to mean beer, ale, or porter.

HOUSE OF COMMONS.

THURSDAY, FEBRUARY 14TH.

Mr. Channing asked the Secretary of State for the Home Department whether his attention had been called to a sentence passed by Mr. Denman at the South-Western Police-court in September last, on F. D. Summers, of seven days' imprisonment with hard labour for non-compliance with a vaccination order; whether he is aware that F. D. Summers was, contrary to law, subjected to the hard labour regulations while in prison; and whether he will direct compensation to be made to him for this illegal punishment.—Mr. Asquith: I have communicated with the magistrate and with the Prison Commissioners, and I am informed that Summers was neither sentenced to hard labour nor subjected to hard labour. Therefore, no question arises.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLEN, JAMES, L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Bollington Urban Sanitary District.

ANNINGTON BUSHELL, M.D. Cantab., M.R.C.S., has been reappointed Medical Officer for the Chesterton Urban and Rural Sanitary Districts.

ARROLL, CHAS., M.D., C.M. Glasg., L.R.C.S. Edin., has been reappointed Medical Officer of Health for Sheerness.

BARBER, G. F. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Workhouse of the parish of Birmingham.

BOLT, HENRY, L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Brentford Urban Sanitary District.

BOSTOCK, LEONARD, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Fourth Sanitary District of the Liskeard Union.

COUMBE, JOHN B., M.D. Brux., F.R.C.S. Eng., L.R.C.P., L.M. Edin., has been appointed Medical Officer for the Ninth Sanitary District of the Bedminster Union.

ETCHES, WM. R., L.R.C.P. Lond., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health for Macclesfield.

FARRAR, CHAS., L.F.P.S., L.M. Glasg., has been reappointed Medical Officer of Health for the Chatteris Urban Sanitary District.

FENWICK, J. C. J., M.D. Lond., M.R.C.P., has been appointed Honorary Consulting Surgeon to the Durham County Hospital.

FERRABY, GEO. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth and Fifth Sanitary Districts of the parish of Birmingham.

FYFE, THOS. H., M.B., M.S. Aberd., has been appointed Honorary Medical Officer to the Forres Leanchoil Hospital.

GOODALL, JOHN K., L.R.C.P., L.M., L.R.C.S. Edin., has been appointed Medical Officer of Health for Brimington.

GOODMAN, T. HERBERT, M.R.C.S. Eng., L.S.A. Lond., has been appointed Medical Officer to the Hearts of Oak Benefit Society, Haverhill and District.

HAY, GEO. P., M.D., M.S. Aberd., has been appointed Honorary Medical Officer to the Forres Leanchoil Hospital.

HUGHES, A. E. PREST, M.R.C.S., L.R.C.P., has been appointed Senior Resident Medical Officer to the Sheffield Union Infirmary and Children's Homes, vice Collier, resigned.

JAMESON, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for Ashover.

JONES, L. G. D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First and Second Sanitary Districts of the parish of Birmingham.

KENWOOD, HENRY R., M.B., C.M. Edin., L.R.C.P. Lond., D.P.H., has been reappointed Medical Officer of Health to the Finchley Local Board.

KNIGHT, ERNEST, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Salford Royal Hospital, vice S. M. Brown, resigned.

MILLIGAN, GEO. C., M.B., C.M. Aberd., has been appointed Honorary Medical Officer to the Forres Leanchoil Hospital.

MORRISON, J. T. J., M.B. Cantab., F.R.C.S., M. Eng., has been appointed to the Chair of Surgery, Mason Hall, Birmingham.

NEWBY, THOS., M.D. St. And., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Great Grimsby.

RAY, J. HOWSON, M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Salford Royal Hospital, vice E. Knight.

RAYWOOD, JOHN R. I., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., has been appointed Honorary Surgeon to the Montgomeryshire Infirmary, Newton, N. Wales, vice G. H. Biden, resigned.

SKINNER, S., M.B., C.M. Aberd., M.R.C.S., has been appointed Medical Officer of Health to the Clevedon Urban District Council.

STANLEY, ARTHUR, M.B. Lond., has been appointed Assistant Physician to the Manchester and Salford Hospital for Skin Disease.

TAIT, W. P., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Fifth Sanitary District of the Ashton-under-Lyne Union, vice Hopwood, resigned.

THOMSON, JOHN A. M., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer of Health to the Bradford-on-Avon Rural District Council.

WHITEHEAD, WALTER, F.R.C.S., F.R.S. Edin., has been appointed Honorary Consulting Surgeon to the Manchester and Salford Hospital for Skin Diseases.

WILD, ROBERT B., M.D. Lond., M.Sc. Vict., has been appointed Honorary Physician to the Manchester and Salford Hospital for Skin Diseases.

WILLIS, GEO. N., L.D.S.R.C.S. Eng., has been appointed Dental Surgeon to the East Dulwich Provident Dispensary.

WITHERS, JOHN S., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Sale Urban Sanitary District.

WOOD, E. STANLEY, has been appointed Factory Surgeon for Cambridge and District, vice W. Russell Hall, deceased.

YONGE, EUGENE S., M.B., C.M. Edin., has been appointed honorary Surgeon to the Chorlton-on-Medlock Dispensary, Manchester, vice G. R. Gowland, resigned.

YOUNG, ADAM, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Certifying Factory Surgeon for Hampstead.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNWOOD HOUSE HOSPITAL FOR THE INSANE, Gloucester.—Junior Assistant Medical Officer. Salary £100 a year, in addition to board &c.

GUEST HOSPITAL, Dudley.—Resident Assistant House Surgeon, for six months. Board, lodging, and washing in hospital provided.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Applications to Dr. Philipp, Virginia Water.

KENT AND CANTERBURY HOSPITAL.—Surgeon.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the Western Hospital for Fever Patients, Seagrove-road, Fulham, S.W. Unmarried. Salary £160 per annum for the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance and washing. Applications to the Clerk to the Board, Chief Offices, Norfolk-street, Strand, London.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London.—House Surgeon, from April 1st to Nov. 7th. Salary at the rate of £50 per annum, with board and residence. Also Surgeon to Out-patients.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Junior House Surgeon. Salary £80 a year, with apartments and rations (wines, spirits, and washing are not included).

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Board, residence, and laundry provided.

ST. GEORGE'S HOSPITAL, London, S.W.—Surgeon and Assistant Surgeon.

ST. PETER'S HOSPITAL, Henrietta-street, Covent-garden, W.C.—House Surgeon for six months. Salary at the rate of 50 guineas a year, with board, lodging, and washing, and an allowance for wine &c.

THROAT HOSPITAL, Golden-square, London—Clinical Assistants.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM.—Third Assistant Medical Officer; unmarried. Salary commences at £100 per annum, with board, lodging, and washing. Applications to Dr. Cooke, The Asylum, Powick, near Worcester.

Births, Marriages, and Deaths.

BIRTHS.

ACKERLEY.—At Croft House, Surbiton-hill, on Feb. 5th, the wife of Richard Ackerley, M.B., of a son.

BATTERSBY.—On Feb. 10th, at Rawal Pindi, Punjab, India, the wife of Surgeon-Major J. C. Battersby, Army Medical Staff, of a daughter.

DREW.—On Feb. 8th, at The Hannings, Framlingham, Suffolk, the wife of Dr. J. Bowerman Drew of a son.

GROSS.—On Feb. 5th, at South-side, Clapham-common, the wife of Asher Gross, L.R.C.P., M.R.C.S. Eng., of a son.

MARRIAGES.

BATEMAN—METCALFE.—On Feb. 6th, at St. Paul's Church, York, Hinton Bateman, L.R.C.P. Lond., M.R.C.S. Eng., to Edith Beatrice, second daughter of the late Rev. J. Metcalfe, M.A., Rector of Holy Trinity, Micklegate, York.

BROADBENT—FIELD.—On Feb. 12th, at St. George's, Hanover-square, by the Rev. W. Page Roberts, assisted by the Rev. David Anderson, Rector, John Francis Harpin Broadbent, M.A., M.D., eldest son of Sir William H. Broadbent, Bart., to Margaret Elizabeth, eldest daughter of George P. Field, Esq., of 34, Wimpole-street, and Normanswood, Farnham.

CROPPER—WALKER.—On Feb. 6th, at St. Stephen's, Caerwent, Monmouthshire, John Cropper, M.A., M.B., B.C. Cantab., second son of Edward William Cropper, J.P., Fearnhead, Great Crosby, Liverpool, to Ann Ellen (Nellie), third daughter of the late Thomas Andrew Walker, J.P., Mount Ballan, Chepstow.

WILLIAMS—EAGLES.—On Feb. 7th, at St. Peter's Church, Bedford, Henry Llewellyn Williams, M.D., M.R.C.P., of Kensington-square, W., to Emily Mary, widow of the late Thomas Henry Eagles.

DEATHS

CHAMPNEYS.—On Feb. 11th, at Hamilton House, Penge, Henry Montagu Champneys, F.R.C.S. Eng., L.S.A., in his 77th year.

DAWSON.—On Feb. 10th, at St. Helen's, Great Malvern, suddenly, William Henry Dawson, M.D., aged 57.

MCGEAGH.—On Feb. 6th, at 20, Spellow-lane, Liverpool, Marion Ethel, beloved and only surviving child of William McGeagh, M.D., aged 12 years and 11 months.

WAGHORN.—On Feb. 6th, at Redhill, Surgeon-Major A. R. Waghorn, M.D., Bengal Army, retired, aged 66.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynecological, by Physicians 2 P.M.) Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.) St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Frederick Roberts: The Combinations of Morbid Conditions of the Chest. (Third Lettsomian Lecture.)

TUESDAY.—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. D'Arcy Power (for Mr. R. Jones): Endosteal Sarcoma of the Patella.—Dr. F. Hawkins: Congenital Obliteration of the Bile-duct.—Mr. S. G. Shattock: Fœtus with Reptilian Characters in the Sexual Ducts.—Dr. Voelcker: Carcinoma of Ureter.—Mr. L. A. Bidwell: Carcinoma of Stomach treated by Gastro-duodenostomy. Card Specimens:—Dr. W. W. Ord: Hydronephrosis due to Stricture of Ureter (? congenital). Dr. G. Newton Pitt: (1) Kidneys increased Fourfold by Acute Nephritis; (2) Renal Calculi in Infants.—Dr. C. J. Arkle: Ulceration of the Large Intestine.

WEDNESDAY.—ROYAL METEOROLOGICAL SOCIETY (25, Gt. George-st., Westminster).—7.30 P.M. Mr. E. Mawley: Report on the Phenological Observations for 1894.—Mr. W. Marriott: The Thunderstorm and Squall of Jan. 23rd, 1895.—Mr. A. B. MacDowall: On some Gradual Weather Changes in certain Months at Greenwich and Geneva.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-sq., W.).—8 P.M. Ordinary Meeting.

THURSDAY.—HARVEIAN SOCIETY.—8.30 P.M. Dr. James Taylor: Syphilitic Diseases of the Brain.

FRIDAY.—CLINICAL SOCIETY OF LONDON.—8.30 P.M. Dr. E. W. Goodall: An Unusual Case of Diphtheria of the Air Passages.—Dr. Lee Dickinson: A case of Malformation of the Heart with Hæmophilia.—Mr. Barling: A case of Gangrenous Umbilical Hernia; resection and immediate union by Murphy's button; recovery.—Dr. Hector Mackenzie: A case of Hysterical Contracture of the Legs of two years' duration successfully treated.—Mr. Arbuthnot Lane: A case of Extensive Degenerating Nævus of the Bladder.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY.—LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 1 P.M., Mr. W. Lang: Conjunctival Affections.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Edward Woakes: Nasal Neuroses.

SOCIETY OF ARTS.—4 P.M. Mr. Alan S. Cole: Means for Verifying Ancient Embroideries and Laces. (Cantor Lecture.)

TUESDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Hyslop: Delusional Insanity; Paranoia.

ROYAL INSTITUTION.—3 P.M. Prof. Charles Stewart: The Internal Framework of Plants and Animals. (VI.)

THE CLINICAL MUSEUM (211, Great Portland Street).—Open at 2 P.M., Lecture at 4.

CENTRAL LONDON THROAT AND EAR HOSPITAL.—4.30 P.M. Dr. Dundas Grant: The Treatment of Disease causing Discharge from the Ears.

ROYAL BRITISH NURSES' ASSOCIATION.—8 P.M. Dr. W. S. Colman: Chorea, Delirium, and Hysteria.

SOCIETY OF ARTS.—8 P.M. Mr. A. F. Baillie: Paraguay.

WEDNESDAY.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-sq., W.C.).—2 to 6 P.M. Dr. Morgan Dockrell: Pemphigus.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Beevor.

WEST LONDON HOSPITAL (Hammersmith-rd., W.).—5 P.M. Mr. Eccles: The Mechanical Treatment of Hernia. (Post-graduate Course.)

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. Q. Silcock: Progressive Myopia, with illustrative cases.—Hospital for Skin Diseases, Blackfriars, 1 P.M., Dr. Payne: Acne.

SOCIETY OF ARTS.—8 P.M. Admiral P. H. Colomb: Rule of the Road at Sea.

THURSDAY.—ROYAL INSTITUTION.—3 P.M. Mr. L. Fletcher: Meteorites.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Gt. Ormond-st., 3.30 P.M., The Medical Registrar: Pathological Demonstration.—National Hospital for the Paralysed, Bloomsbury, 2 P.M., Dr. Buzzard: Insular Sclerosis.—Central London Sick Asylum, Cleveland-street, W., 5.30 P.M., Dr. Cheadle: Cases in the Wards.

FRIDAY.—LONDON POST-GRADUATE COURSE.—Bacteriological Laboratory, King's College, 3 to 5 P.M., Prof. Crookshank: Anthrax and Malignant Œdema.

LONDON SKIN HOSPITAL.—8 P.M. Dr. Barry: Psoriasis and its Treatment.

ROYAL INSTITUTION.—9 P.M. Prof. A. Schuster: Atmospheric Electricity.

SATURDAY.—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square W.C.).—2 to 6 P.M. Dr. Morgan Dockrell: Sycosis.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 11 A.M., Dr. Craig: Stupor; Catalepsy; Katatonia; Dementia.

ROYAL INSTITUTION.—3 P.M. Sir Alexander Campbell Mackenzie: Moore's Irish Melodies (with Musical Illustrations).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 14th, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Feb. 8	29·95	S.E.	17	Fzn.	50	30	16	...	Overcast
,, 9	3·13	S.W.	18	Fzn.	34	29	17	...	Foggy
,, 10	29·94	N.E.	24	Fzn.	46	31	17	...	Bright
,, 11	29·60	E.	29	Fzn.	54	33	24	...	Cloudy
,, 12	29·88	W.	24	Fzn.	54	38	23	...	Foggy
,, 13	30·17	W.	24	Fzn.	34	33	23	...	Foggy
,, 14	30·30	S.E.	23	Fzn.	48	27	24	...	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index for the last half-year was published in our issue of Dec. 29th, which completed the second volume of the year 1894. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager.

MEDICAL CERTIFICATES AND MEDICAL TITLES.

THE *Blackburn Times* editorially notices and discusses an opinion of Dr. Martin that medical men in giving certificates for use in courts of law should attach their titles to their signatures. We quite agree with Dr. Martin. Such attachment is becoming in a medical document. It does not of itself, and apart from registration, give validity to the certificate; but it is seemly and it is an additional means of identifying the certifier—whose competence should not be judged by mere common knowledge, but by his appearance in the Medical Register.

Constant Reader.—The coroner has perfect discretion in the matter, but cases quoted not infrequently in our columns show that he is not always discreet.

A QUERY.

To the Editors of THE LANCET.

SIRS,—Could you or some of your numerous readers kindly give me any information as to the best form of an inexpensive conveyance for removing infected bedding &c. through the streets to and from the disinfecting chamber?

I am, Sirs, yours faithfully,

Lytham, Feb. 7th, 1895. J. H. JENKINS.

MEDICAL RESPONSIBILITY AND BABY FARMING, &c.

Honor.—Medical relations with such a house as our correspondent describes are not necessarily prohibited, but they need to be strongly conditional. An accoucheur either in such a house or a lying-in hospital is not called on to act as a detective, but he is not to shut his eyes or give any countenance to questionable ways of dealing with children born under discreditable circumstances. He can, if he rightly uses his office, be their best friend. He should absolutely refuse to attend if children are kept without due compliance with the Act of Parliament which requires their registration. If they die without evidence of their care and medical attendance he must absolutely decline to certify. We gather that the landlady in this case is a respectable person and has every wish to comply with the law; where this is obviously not the case the medical man should decline all medical attendance beyond what humanity dictates.

Dr. Russell Steele.—We are informed that at both places the bread can be obtained by arrangement.

"THE EXHIBITION OF HYPNOTISED SUBJECTS."

To the Editors of THE LANCET.

SIRS,—Having had occasion on Friday, the 1st inst., to see Mr. Ritchie, the chairman of the board of directors of the Royal Aquarium, on a private matter, not in any way connected with the Aquarium, I went there for that purpose. I was then informed for the first time of the proposed trance. I have already, in your issue of Saturday, explained how it was that I took any prominent part in the first *séance*. Having on many previous occasions attended interesting demonstrations at the Aquarium by invitation, where I have seen numbers of medical men also present, I did not think the matter unusual. As to the second trance. I got so deeply interested in the first that I decided to watch this, purely from a scientific point of view, to see whether a six days' trance could be possible. I must confess that I was very doubtful of the fact notwithstanding I had been informed of similar cases. I also considered that if such could be proved it opened out a dangerous vista to science, inasmuch as criminal and other acts might be committed under similar circumstances, whereas it also proved that in persons susceptible of hypnotic influence it might be used to perform severe operations, and to prolong sleep in cases of mental disease requiring brain rest. I desired to be convinced on this matter, and never having had any opportunities of seeing or knowing where in England such investigations could be made I decided to grasp this occasion, and purely in the interests of science. I also decided that if such were proved to be the case some law should be passed on the subject deciding when it may or may not be used and by whom. Immediately I saw that my name was appearing in the newspapers I wrote and requested Mr. Ritchie to stop this, as it was against my wish to appear in any official or public capacity in the matter. This was, as you may have observed, immediately done. I was not directly or indirectly a party to the proceedings, and my services throughout were given voluntarily, with the sole object of testing the possibility of such a proceeding. I was informed by one who attended at the resuscitation, which took place on Saturday night, but at which I was not present, that Mr. Ritchie stated that 150 medical men had examined the case, and that many had left their cards and signed a paper as to their opinion on it, thus showing the interest taken by the profession. I might state that on being asked whether there was any danger to life whilst in a hypnotic trance I replied, so far as I knew, there were no recorded instances. I had never heard of the phthisical case until my attention was drawn to it, not being a student in hypnotism or versed in the literature of the subject, but one anxious to learn. I trust that you will give this letter the same prominence as the paragraph in Saturday's issue.

I am, Sirs, your obedient servant,

Devonshire-street, W., Feb. 11th, 1895. FORBES WINSLOW.

P.S.—The man remained in a perfect state of insensibility from 3.30 P.M., Monday, the 4th, until 10.30 P.M., Saturday, the 9th inst., in spite of everything that was done to rouse him.

A TAX ON ERRAND-BOYS.

To the Editors of THE LANCET.

SIRS,—The Inland Revenue authorities want me to pay the "male servant" tax on my errand boy, whose duties are to clean knives and boots, run on errands, and take out the medicines. I shall be glad if you or some of your readers can tell me if I am liable for this tax. I may add that my father, who practised for forty years, kept a similar servant and was never asked to pay the tax. I enclose my card.

I am, Sirs, yours faithfully,

Feb. 11th, 1895. VERULAM.

A POINT OF ETHICS.

To the Editors of THE LANCET.

SIRS,—I should be thankful if you would kindly enlighten me on a question of medical ethics. In a case of a Government employé being laid up ill at home is it proper that the medical officer attached to the department should visit him, remove dressings, and make suggestions as to diagnosis and treatment, without giving his local medical attendant a chance of being present at the interview?

I am, Sirs, yours faithfully,

Feb. 13th, 1895. B. C. L.

*** There can be but one answer—certainly not.—ED. L.

GRAPHOLOGY.

HANDWRITING as a diagnostic sign in obscure cases of cerebral or mental disease has lately been invested with much importance by the Italian school of anthropology, the head of which, Dr. Cesare Lombroso, the eminent Turin professor, has just issued a little volume on the subject. It is entitled "Grafologia," and is published by Ulrico Hoepli of Milan. A history of graphology, going into the handwriting of "individui normali," and showing how it illustrates individual character, precedes an elaborate examination of the handwriting of "individui anormali," in which the distinctive features of the cursive style assumed by epileptics, lunatics, and "hypnotics" is described with great minuteness, aided by the copious reproduction of facsimiles. This is much the most interesting portion of the treatise, and Dr. Lombroso's immense experience as a medico-psychological expert in criminal trials is displayed to special advantage. The "range of variation" within which the same individual, healthy as well as insane, will modify his handwriting according to his cerebro-mental condition is one of the many interesting inductions arrived at by Dr. Lombroso.

W. M. C.—The fair arrangement, it seems to us, would be to value the drugs at both times and pay half on the sum so obtained.

Mr. Thomas Laffan.—We regret to be unable to be of any practical assistance to our correspondent.

HOMES FOR CHILDREN OF DEFICIENT INTELLECT.

To the Editors of THE LANCET.

SIRS,—In reply to the query by "J. P. S." in your last issue, allow me to state that accommodation for such a case as he mentioned (presumably mentally suitable for Darenth) might be obtained at moderate rates at any of the charitable institutions for imbecile children. At Earlswood (secretary, Mr. Downing, 33, King William-street, E.C.) patients are received as "part-payment" cases (specially voted for at the elections) at 15 guineas or more annually, and on full payment at 60 guineas and upwards according to requirements. At the Eastern Counties Asylum, Colchester (secretary, Mr. Turner) payment cases are taken at £50 per annum, but reduction is made to £40 if the friends cannot afford more. At the Royal Albert Asylum, Lancaster (secretary, Mr. Diggens), the full payment is 60 guineas, and the reduced (available only for residents in the northern counties) 25 guineas per annum. Payment cases are also taken at the Western Counties Idiot Asylum, Starcross, and the Midland Counties Asylum, Knowle, near Birmingham. There are a few private educational establishments also for mentally feeble children, of which I should be glad to give your correspondent information if he would write to me.—I am, Sirs, yours truly,

G. E. SHUTTLEWORTH, M.D.

Ancaster House, Richmond Hill, Feb. 11th, 1895.

ADVERTISEMENT BY NEWSPAPER CARD—CAPE COLONY.

SUCH a mode of announcing the commencement of practice is not approved at home, and would be better avoided in the colonies.

C. H. W. P.—We can understand that the Local Government Board in practice would have the same difficulty as we should in theory, or more, if it set itself to lay down hard-and-fast definitions and regulations to apply to all cases alike; and we fear that we shall be unable to make the perfectly clear and authoritative statement that is desired for that reason. A systematic inspection may in some cases involve a house-to-house inspection. Undoubtedly the Local Government Board has purposely left points in its instructions to the intelligent interpretation of the individual health officer according to the actual circumstances, which he alone knows.

Enquirer.—There is no Society of United Medical Botanists in Great Britain whose diplomas are of any legal value or confer any rights of practice. The advertisements are enough to stamp their authors with quackery.

FAIR COMPETITION.

To the Editors of THE LANCET.

SIRS,—Will you kindly answer the following queries in the next issue of THE LANCET? There is a forge in this town for which a medical officer is appointed every three years. A has held the appointment for several terms. The committee decided this year to have a ballot. A letter was sent to several medical men, asking if they would allow their names to be submitted as candidates. Would B, having been one of the medical men asked, have acted against any rules of medical ethics or in any way ungentlemanly in allowing his name to be placed on the list for election? A was also asked again to be one of the number.

I am, Sirs, yours faithfully,

Feb. 11th, 1895. NEMO.

*** If the committee has decided openly and formally to throw the appointment open there can be no reason, legal or moral, why other medical men than A should not compete for it. A could not properly feel aggrieved at candidates competing with him for the post unless he was given to understand, when originally appointed, that the post was a permanent one. We presume, as our correspondent makes no allusion to this point, that A is not being now made to undergo re-election having formerly been promised that he should not be so troubled.—ED. L.

THE DANGER OF QUACK MEDICINES.

THE *Bradford Observer* recently reported an inquest on **Mr. Charles Vickermann of Huddersfield**, who died at the age of seventy-three years. He was taking a patent medicine. He wrote to the vendors in London about his complaint, and they urged a continuance of the medicine. He became suddenly worse, and died before assistance could be procured. The deputy-coroner said this sort of thing should be exposed and people shown the great danger of taking medicines prescribed by persons they had never seen. The risk is too obvious. But to whom are we to look to act in the name of the public? The coroners as a body should make a representation of these cases to the Home Secretary.

A. B. M.—The Matriculation Examination of the University of Melbourne is accepted by the Joint Board of Examiners of the Scottish Universities, as exempting from the Medical Preliminary Examination of the Scottish Universities, provided the examination includes all the subjects required under the regulations of the General Medical Council and prescribed by the medical ordinances of the Scottish University Commissioners (see the Students' Number of THE LANCET). With regard to the further question of the Junior and Senior Public Examinations of the University of Tasmania, these do not appear on the list of examinations accepted by the Board as exempting from the Medical Preliminary Examination; but we understand that the Secretary of the Aberdeen University Court will be asked to bring up the question of the recognition of these examinations at the meeting of the Board in April. In the event of any special cases involving hardship or requiring immediate attention arising in the intervals between the meetings of the Board there is an urgency committee empowered to deal with such cases on their merits.

A LEGITIMATE GRUMBLE.

To the Editors of THE LANCET.

SIRS,—Will you allow me to protest through THE LANCET against the discourtesy that prevails in our profession? I am one of that unfortunate genus *assistant*, and when applying for a post, although I send a full-stamped and directed envelope, not one in twenty gentlemen will take the trouble to return my photo and testimonials. I think myself lucky if I get 50 per cent. of my photos back, even after writing a second time for them. Mine, I find, is no exceptional experience, and it is a pity there is not a little more of that good old feeling amongst us—to do unto others as we would be done by.

I am, Sirs, yours truly,

Feb. 11th, 1895. **M.B.**

*** We have headed our correspondent's letter with a title which we consider apt to its contents. It may be complimentary to "M.B." that his photograph should in so large a proportion of cases be retained, but it is a compliment that has its drawbacks.—ED. L.

"CLUBS AND CHRONIC CASES."

To the Editors of THE LANCET.

SIRS,—Assuming the case one in which the patient has not broken the by-law in reference to contributing in any way to his illness, I should advise "Podagra" to ignore the society's definition of "gout" as a "chronic disease," and for two reasons: First, because if he allows the society to define such terms for him he might possibly find the precedence awkward at some future date. An insurance office on one occasion was desirous of disputing a death claim because the word "atheroma" occurred on my certificate. The insured had deceived them by not stating he was the subject of a "tumour or large swelling of the vessels." Secondly, because the local manifestations of the gouty diathesis are acute attacks, separate illnesses from time to time, and certainly entitling the poor sufferer to go on the funds. Ultimately no doubt the case will show some decided form of "chronicity."

I am, Sirs, yours obediently,

Ashton, Jan. 29th, 1895. NATHAN HANNAH.

A QUESTION OF DOOR-PLATES.

To the Editors of THE LANCET.

SIRS,—Is it legal for a medical man who holds the following qualifications—M.D. Brux., L.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S.G.—to have on one plate on his door "T. F. S——, M.D." and on another plate "Dr. S——"?

I am, Sirs, yours faithfully,

Feb. 11th, 1895. ENQUIRER.

*** There is nothing illegal, we believe, in such a description, but we certainly think that under the circumstances two door-plates are quite unnecessary.—ED. L.

"QUALIFIED DISPENSERS."

To the Editors of THE LANCET.

SIRS,—Does the reply to "Chemicus" in THE LANCET of Feb. 9th respecting qualified dispensers imply that the Apothecaries' Hall qualification is not a legal one?

I am, Sirs, yours faithfully,

Feb. 9th, 1895. COLLOID.

*** What does our correspondent imply by the Apothecaries' Hall qualification?—ED. L.

CORONERS ON UNQUALIFIED PRACTICE.

To do prescribing druggists due justice, they generally do not tamper with their own children. Though they may indulge freely in unqualified practice they are usually alive to the advantage of medical advice when their own family is concerned. But a remarkable instance to the contrary has been partly exposed at Rotherham by the coroner, Mr. D. Wightman, in the case of William Eric Holmes, aged five years and a half, the son of Mr. Samuel Holmes, chemist, of Rotherham. Mr. Holmes was so satisfied with his own medical knowledge and wisdom that he treated his own child up to the time of his death. For eight or ten days the boy was ill, and even towards the end, when he "detected" signs of pneumonia, he did not send for the medical man. A neighbour was expecting him to call, and he asked her to send him in, but he did not call the first day, and Mr. Holmes simply repeated the request a second day through the neighbour. When he did call he found the child dead. Hence the inquest. The coroner made some strong observations on the conduct of the druggist; but not too strong. He dealt chiefly with the fact that by not calling in the medical man an inquest had been necessitated. This is the least objection to the course taken by Mr. Holmes. The greatest is that he did no give his child the benefit of medical attendance.

Durham.—The hard-and-fast line between the physician and surgeon cannot always be observed in provincial hospitals, but it certainly seems to us upon the facts put before us by our correspondent, that the surgical work should be strictly done by the men appointed by the governors to do it. Gynæcological surgery is by common consent held to be a thing apart, and the rules or customs of different institutions dictate the different procedures.

Badge 17,284.—We cannot do anything to practically display our sympathy.

"DIFFICULTIES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT."

To the Editors of THE LANCET.

SIRS,—In your interesting series of articles under the above heading you have not yet come to the point of payment. The clerk of a sanitary board refuses to pay me certain half-crowns on the score that I did not give him notice of the debt within a year. The Act does not order me to give such notice, nor has the aforesaid clerk till now informed me that such is necessary. Have I any redress?

I am, Sirs, your obedient servant,

Melksham, Wilts, Jan. 26th, 1895. S. GROSE.

*** Our articles have not attempted to deal with every individual case that might arise (see answer to "C. H. W. P."). There is nothing in the Act giving the clerk the position he has assumed, and our correspondent should communicate with his local authority. Perhaps the clerk's action is for convenience of audit.—ED. L.

"CARAMELS."

To the Editors of THE LANCET.

SIRS,—For the information of your correspondent, "M.R.C.S. (Retired)," in your issue of Jan. 26th, I quote the following from Roscoe's "Elementary Chemistry": "Sugar melts at 160° to a colourless liquid, which solidifies on cooling to a colourless transparent mass (barley-sugar) and on standing becomes crystalline and opaque. When more strongly heated, water is given off, and a dark-coloured mass, called caramel, is left behind." I have little doubt that this is the foundation of the caramels sold by confectioners, these being made of chocolate, white sugar, and butter boiled together in a pan and variously flavoured.

I am, Sirs, yours faithfully,

Sheerness, Feb. 4th, 1895. JULIUS CÆSAR.

LEGAL REQUIREMENTS IN VACCINATION.

To the Editors of THE LANCET.

SIRS,—May I ask if there is any law or rule for a medical man in private practice to vaccinate any individual in more than one place?

I am, Sirs, yours faithfully,

Feb. 11th, 1895. VACCINE.

*** There is unhappily no binding rule.—ED. L.

During the week marked copies of the following newspapers have been received:—*Birmingham Argus, Midland Evening News, Star, Bradford Daily Telegraph, Judy, Dover Express, Newcastle Daily Chronicle, North Star, Brighton Argus, Western Morning News, South Wales Echo, Yorkshire Herald, Manchester Guardian, Perthshire Courier, San Francisco Chronicle, Lincolnshire Chronicle, Cheltenham Examiner, Cape Times, Falkirk Herald, Science Siftings, Cork Constitution, Yorkshire Evening Post, Sanitary Record, West Middlesex Standard, Reading Mercury, Local Government Chronicle, Weekly Free Press and Aberdeen Herald, Newcastle Daily Leader, City Press, Times of India, Architect, Pioneer Mail, Leeds Mercury, Yorkshire Post, Builder, Bristol Mercury, Guy's Hospital Gazette, Liverpool Daily Post, Scotsman, Hertfordshire Mercury, Southern Times (Weymouth), West Middlesex Advertiser, Cork Examiner, Nature, Southampton Echo, Lancashire Evening Express, Local Government Journal, Lincoln Gazette, Matlock Visitor, Coventry Herald, Jarrow Express, Cornish Telegraph, Hampshire Advertiser, Kentish Mercury, Salford Chronicle, Perth Constitutional, Gloucestry Advertiser, Somerset Journal, Worcester Chronicle, Forres, Elgin, and Nairn Gazette, &c., &c.*

Communications, Letters &c. have been received from—

A.—Mr. G. Arnison, Allendale Town; Messrs. Atkinson and Philipson, Newcastle-on-Tyne; Assistant, Lond.; A. B. C., West Brighton.

B.—Dr. G. S. Buchanan, Lond.; Dr. J. M. Bleyer, New York; Dr. W. Bower, Ross; Mr. A. Bowlby, Lond.; Mons. O. Berthier, Paris; Mr. R. Baker, Lond.; Mr. W. G. Black, Edinburgh; Mr. F. N. W. Brown, Toronto; Mr. C. Bell, New York; Mr. C. Biddle, Philadelphia; Mr. H. O. Bayfield, Lond.; Miss E. Beckett, Lond.; Messrs. F. B. Benger and Co., Manchester; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. Burroughs, Wellcome and Co., Lond.; Messrs. Blondeau et Cie., Lond.; Messrs. Bailliére, Tindall and Cox, Lond.; *Blackpool Gazette*, Publisher of; Barnwood House, Gloucester, Med. Supt. of; Brighton and Sussex Med.-Chir. Soc., Hon. Sec. of;

C.—Dr. J. Cagney, Lond.; Dr. F. Clemow, Lond.; Mr. Watson Cheyne, Lond.; His Excellency Crookshank Pasha, Cairo; Dr. R. J. Carter, Lond.; Mr. E. Collins, Sawbridgeworth; Mr. W. H. Cuthbert, Aberdovey; Mr. F. W. Chapman, Chester; Mr. J. Carter, Lond.; Mr. J. Conn, New Orleans; Messrs. Coleman and Co., Norwich; Messrs. Cassell and Co., Lond.; Messrs. Crossley, Moir and Co., Lond.; Caledonia, Lond.; C. H. C., Lond.; Cantab, Lond.

D.—Dr. G. W. Davis, Sidcup; Dr. J. W. Dalgleish, Bloemfontein, Orange Free State; Mr. W. E. Darby, Lond.; Mr. T. Dixon, Lond.; *Deutsche Medicinische Wochenschrift*, Editor of; Delta, Lond.

E.—Dr. G. Elder, Nottingham; Dr. G. J. Eady, Enfield; Mr. E. F. Eliot, Southampton; E. M. W., Lond.; E. A.

F.—Dr. R. W. Felkin, Edinburgh; Dr. E. L. Fox, Plymouth; Mr. D. Ferguson, Lond.; Mr. R. B. Ferguson, Lond.; Mr. T. G. S. Forrest, St. Leonards-on-Sea.

G.—Dr. J. H. Galton, Lond.; Dr. J. Griffiths, Cambridge; Dr. J. Galloway, Lond.; Dr. F. W. Giles, Cannes; Dr. J. Galloway, Rhayader; Dr. H. C. Garth, Mitcham; Prof. Gault, Lond.; Mr. L. M. Griffiths, Bristol; Mr. H. R. Greene, Woking; Mr. J. Gay, Lond.; Messrs. Gilliard, Monnet and Cartier, Lond.; Guy's Hosp., Lond., Sec. of; Guest Hosp., Dudley, Sec. of.

H.—Dr. G. Herman, Lond.; Dr. P. Hawkins, Reading; Dr. M. M. Hagopion, Arapkir, Turkey; Dr. S. Hyde, Buxton; Mr. F. D. S. Hogg, Lond.; Mr. G. Heaton, Birmingham; Mr. A. Haviland, Buxton; Mr. A. E. P. Hughes, Darlington; Mr. J. H. Haywood, Nottingham; Mr. J. Heywood, Manchester; Mr. C. J. Hutchinson, Bustis, Florida; Mr. F. R. Humphreys, Lond.; Messrs. Haasenstein and Vogler, Geneva; Messrs. Hopkinson and Co., Nottingham; Messrs. C. J. Hewlett and Son, Lond.; Messrs. Hohoff and Co., Lond.

I.—Messrs. Ingram and Royle, Lond.; Institute for Orthopædie, Lond., Proprietor of; Inspector-General R.N.

J.—Sir George Johnson, Lond.; Dr. T. H. Jackson, Sanquhar, N.B.; Mr. A. G. Jones, Lond.; Jeyes' Sanitary Compounds Co.

K.—Dr. Kelynack, Manchester; Mr. R. C. B. Kerin, Lond.; King's College Hosp., Lond., Warden of.

L.—Dr. J. F. Little, Lond.; Dr. T. Lund, Germiston, Transvaal; Surg.-Captain E. J. Lawless, Wokingham; Mr. R. C. Lucas, Lond.; Mr. T. Laffan, Cashel; Mr. T. P. Lowe, Bath; Mr. R. H. Lucas, Bury St. Edmunds; Mr. W. N. Lockington, Lond.; Liquor Carnis Co., Aston Clinton; Lond. School of Med. for Women, Sec. of.

M.—Dr. P. Manson, Lond.; Dr. J. Murphy, Sunderland; Dr. H. C. Marr, Glasgow; Dr. C. D. Musgrove, Penarth; Dr. F. P. Moller, Lond.; Surg.-Captain D. M. Moir, Calcutta; Mr. R. Marshall, Stockport; Mr. L. McCarthy, Lond.; Mr. Rutherford Morison, Newcastle-on-Tyne; Messrs. J. Maythorn and Son, Biggleswade; Messrs. Milton and Co., Lond.; Middlesex Hosp., Lond., Sec. Supt. of; Minus, Lond.

N.—Dr. W. G. Niall, Guildford; Messrs. F. Newbery and Sons, Lond.; National Provident Inst. Lond., Sec. of.

O.—Dr. J. A. Ormerod, Lond.; Dr. T. Oliver, Newcastle-on-Tyne; Prof. A. Ogston, Aberdeen; Messrs. Oppenheimer, Son and Co., Lond.; Messrs. Orridge and Co., Lond.

P.—Dr. C. Pollard, Worcester; Dr. S. R. Philipps, Virginia Water; Dr. H. G. Paterson, Lond.; Mr. W. J. Penny, Clifton; Messrs. Parke, Davis and Co., Lond.

R.—Dr. C. Ramage, Leicester; Dr. R. D. Rudolf, Bengal; Dr. W. C. Rockliffe, Hull; Dr. F. Roberts, Lond.; Messrs. Reynolds and Branson, Leeds; Royal Albert Edward Infirmary, Wigan, Sec. of; Rochford Union, Southend, Clerk of; Roxburgh Press, Lond.; Red Lamp, Lond.; R. B., Manchester.

S.—Dr. R. Steele, Hemel-Hempstead; Dr. C. G. Smith, Cocanada, India; Dr. J. Selkirk, Litcham; Mr. J. H. Stevens, Lond.; Mr. J. Snowman, Lond.; Mr. J. G. Swainton, Craven Arms; Mr. A. Stanley, Furness; Mr. W. G. Spencer, Lond.; Mr. H. D. Stephanian, Rodosto, Turkey; Messrs. Stubbs, Lond.; Messrs. Street and Co., Lond.; Messrs. Staynes and Smith, Leicester; Messrs. F. Stearns and Co., Lond.; Messrs. W. H. Smith and Son, Manchester; Sanitary Wood Wool Co., Lond., Sec. of; St. George's Hosp., Lond., Sec. of; St. Thomas's Hosp., Lond., Sec. of; St. Bartholomew's Hosp., Lond., Sec. of; St. Mary's Hosp., Lond., Sec. of; Société de Gynecologie d'Obstetrique et de Pædiatrie de Bordeaux, Gen. Sec. of; Società di Letture Conversazioni Scientifiche, Genoa; Surgeon, Halifax.

T.—Dr. Truman, Nottingham; Dr. J. H. Thompson, Sydney, N.S.W.; Mr. B. H. Thwaite, Lond.; Mr. R. B. Taylor, Santander, Spain; Messrs. C. Taylor and Co., Lond.; T. E. H., Winchester.

U.—University College Hospital Lond., Sec. of; University of Lond., Registrar of.

V.—Mr. J. Valentine, Aberdeen.

W.—Dr. F. Winslow, Lond.; Mr. W. E. Wynter, Lond.; Dr. R. B. Wild, Greenhays; Dr. R. Floella, Chicago; Mr. R. B. Wallis, Bury; Mr. C. Williams, Bootle; Mr. M. White, Lond.; Lady Willoughby, Fulmer; Miss E. Wright, Southall; Messrs. W. Wood and Co., New York; Woodhall Spa Sanatorium, Sec. of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. R. H. Adam, Bolton; Dr. G. N. Adams, Lond.; Dr. E. Allen, Hawes; Mr. C. M. Anderson, Christchurch, N.Z.; Mr. A. Alexander, Alveston; Mr. A. H. Allen, Sheffield; Messrs. Agar Bros., Manchester; Alpha, Lond.; Alexander, Lond.; Armstrong, Lond.; A. B. C., Ryde; Aleph, Lond.; Æger, Lond.

B.—Sir W. H. Broadbent, Lond.; Dr. J. F. H. Broadbent, Lond.; Mr. J. Brennan, Dovercourt; Mr. E. H. Beaman, Misterton; Mr. W. M. Beaumont, Bath; Mr. J. Brookes, Llanwrtyd Wells; Mr. H. Brice, jun., Exeter; Messrs. J. L. Bullock and Co., Lond.; Messrs. Burgoyne, Burbidges and Co., Lond.; Barth'sche Buchhandlung, Aachen; Birmingham and Midland Free Hosp. for Sick Children, Sec. of; Bank of Bengal, Bombay, Accountant of; B. C. L., Lond.

C.—Mr. W. F. A. Clowes, Great Coggeshall; Mr. V. Casey, Birkenhead; Mr. C. Coventry, Lower Tottenham; Mr. M. D. Cadell, Edinburgh; Messrs. Condy and Mitchell, Lond.; C. D. M., Southsea; C., Farnham.

D.—Dr. M. Dewar, Edinburgh; Dr. De Planta, Nice; Dr. A. C. Dutt, Whitby; Mr. P. R. W. De Santi, Lond.; Mr. J. B. Drew, Framlingham; Mr. E. Dalton, Cerne, Abbas; Messrs. Dehn and Heine, Manchester.

E.—Ebor, Lond.

F.—Dr. R. W. Fell, Waterhouses; Mr. J. Feaver, Lond.; Mr. T. J. Frost, Llanbilleth; Francis, Stevenage; F., Frodsham; Fides, Lond.

G.—Dr. E. W. Goodall, Lond.; Dr. J. W. Greenwood, Hanley; Messrs. Gilyard Bros., Bradford; Messrs. F. J. Gray and Son, Walsall; Gem, Lond.; Garnet, Lond.

H.—Dr. W. B. Howard, Modesto, Cal.; Mr. H. Hutchinson, Eccleshall; Mr. F. R. Humphreys, Lond.; Miss L. Hawkes, Pendlebury; Messrs. J. Halford and Son, Lond.; Messrs. Hunter and Gordon, Aberdeen; Hortus, Lond.

I.—Imperial Live Stock Insur. Assoc., Lond.; Islington, Lond.

J.—J. H., Sheffield.

K.—Kent, Lond.; K. M., Lond.

L.—Mr. C. Lewis, Wingham; Mr. P. T. Lunn, Blakeney; Mr. G. S. Leggatt, Lond.; Mr. T. D. Luke, Matlock; London Temperance Hosp., Sec. of; L. G. B., Birmingham.

M.—Dr. K. Maxwell, Hobart, Tasmania; Mr. J. B. Monks, Great Harwood; Mr. E. H. Monks, Wigan; Medicus, Norwich; M., Lond.

N.—Mr. R. G. Nesbitt, St. Just; North Staffs. Infy., Stoke-on-Trent, Sec. of; National Hosp. for Dis. of the Heart and Paralysis, Lond., Sec. of.

P.—Dr. G. H. Pye-Smith, Lond.; Mr. F. Pearse, Bedford, Cape Colony; Mr. L. W. Powell, Bristol; Propyl Amine, Lond.

R.—Mr. R. Roberts, Ludlow; Mr. R. Roberts, Rhymney; Mr. T. Richards, Newbridge; Messrs. J. Richardson and Co., Leicester; Messrs. Robbins and Co., Lond.; Roy. Surrey County Hosp., Guildford, Assist. Sec. of; Red Lamp.

S.—Dr. T. W. Smith, Bath; Mr. G. Slater, Sheffield; Messrs. F. Stearns and Co., Lond.; Messrs. Squire and Sons, Lond.; Messrs. Savory and Moore, Lond.; Messrs. Smith and Gill, Sheffield; Solis Wine Co., Manchester; Springfield House Asylum, Bedford, Medical Supt. of; St. Andrew's Hosp. Northampton, Sec. of; Strophanthus, Lond.; Sigma, Lond.; Soloid, Lond.

T.—Mr. J. Thin, Edinburgh.

V.—Vendor, Lond.

W.—General B. Welby, Plymouth; Dr. L. Williams, Lond.; Mr. G. S. Walker, Lond.; Westbrook House, Alton, Proprietress of; Worcester County & City Lunatic Asyl., Med. Supt. of; Wirral Children's Hosp., Birkenhead, Sec. of; W., Bradford.

Y.—Mr. A. P. Youle, Lond.

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Subscriptions (which may commence at any time) are payable in advance.

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THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

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